

**JOINT SUPPRESSION OF ENEMY  
AIR DEFENSES (J-SEAD)  
OPERATIONS**

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## JOINT SUPPRESSION OF ENEMY AIR DEFENSES (J-SEAD) OPERATIONS

### PURPOSE

This publication describes the concept and procedures for conducting J-SEAD operations against enemy surface-to-air defense systems.

### SCOPE


This publication—

- Describes the J-SEAD concept.
- Describes J-SEAD planning and coordination.
- Provides a sequence for developing J-SEAD plans.
- Describes the who, what, and when for planning and requesting J-SEAD.


This publication should be used by US Air Force Tactical Air Command (TAC) and US Army Training and Doctrine Command (TRADOC) organizations to teach J-SEAD. It may also be used by operating forces of the Army and Tactical Air Forces in conducting training for J-SEAD. It is applicable to US Readiness Command (USREDCOM) forces during training, exercises, and contingency operations.



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## PREFACE

Modern land battles are fought and won by air and land forces working together. Ground force commanders rely on air support (see note) to accomplish their mission. Due to technological improvements in enemy surface-to-air defenses, the decisiveness of friendly tactical aviation in combat is being seriously challenged. Over the years, enemy ground defenses have improved from a simple environment of small arms, automatic weapons, and large-caliber antiaircraft artillery (AAA) to a sophisticated, high-intensity environment of surface-to-air missiles (SAM) and AAA.

The mobility and firepower of aircraft complement surface-based fire support. Air Force and Army aircraft can attack targets that are inaccessible or invulnerable to ground-fired weapons. But before they can do this effectively, aircraft must first be able to reach the battle area and then be free to deliver their ordnance on the target. During hostilities, Army and Air Force air operations will be challenged by enemy surface-to-air defenses. The battle against the entire enemy air defense system (air-to-air and surface-to-air) is called the suppression of enemy air defenses (SEAD). SEAD is defined as—

*that activity which neutralizes, destroys, or temporarily degrades enemy air defense systems in a specific area to enable air operations to be successfully conducted.*

**SEAD OPERATIONS REQUIRE THAT THE ARMY AND THE AIR FORCE WORK AS A TEAM.** This effort is called joint suppression of enemy air defenses - **J-SEAD**. It is defined as—

*that portion of SEAD which requires joint interaction to suppress enemy surface-to-air defenses having an influence on the tactical air-land battle area.*

In the past **J-SEAD** has been practiced in varying degrees without a formalized concept or procedures. This publication, however, describes the approved **TAC, TRADOC, and USREDCOM J-SEAD** concept and basic procedures to permit both the Army and Air Force to meet the threat posed by the enemy surface-to-air defenses.

## USER INFORMATION

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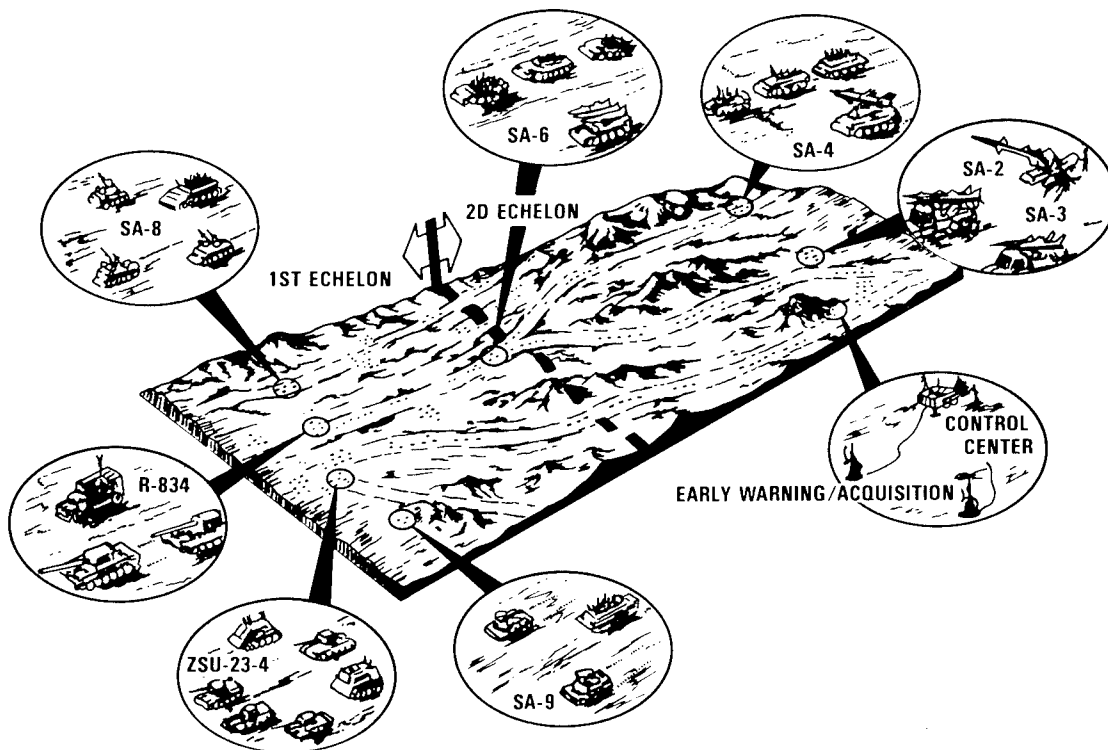
This publication will be reviewed annually by each Service and updated as required. It was written by the TAC-TRADOC Airland Forces Application (ALFA) Agency.

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When used in this publication, "he," "him," "his," and "her" represent both the masculine and feminine genders unless otherwise stated.

## CHAPTER 1 COUNTERING THE THREAT



### INTRODUCTION

In the past, the responsibility for suppressing the enemy surface-to-air threat was assumed by the Service directly affected by it. Future conflicts will require both Army and Air Force fixed and rotary wing aircraft to operate in common airspace threatened by many enemy surface air defense systems.

Each Service has varying degrees of capability to suppress these systems depending on the tactical situation at the time. A jointly coordinated, efficient, and systematic program is needed to optimize and orchestrate these capabilities. Such a program will minimize duplication of effort and promote timely decisions. This need led to the development of J-SEAD.

J-SEAD contributes significantly to winning the air-land battle by increasing the overall effectiveness of friendly air-land operations through reduced attrition and improved capabilities of Army and Air Force air resources. There are three categories of J-SEAD: campaign (chapter 3), localized (chapter 4), and complementary (chapter 5). It must be remembered, however, that J-SEAD is not an end unto itself. It is conducted so that the primary objectives of other missions can be accomplished.

## SOVIET AIR DEFENSE DOCTRINE

The greatest threat to the United States is posed by the Soviet Union and the nations it supports. All elements of modern military power are represented in the Soviet military, including one of the most highly developed and extensive surface-to-air defense systems in the world.

Soviet and Soviet-backed nations have tried to offset or reduce our air combat power by the use of extensive and sophisticated surface-to-air defenses. These defenses provide a protective umbrella over each echelon of their land armies. Some even extend coverage across the forward line of own troops (FLOT). Soviet doctrine stresses the decisiveness of the offensive and places heavy emphasis on the importance of combined operations.

The overall effectiveness of air defense for ground elements is based on the integrated air defense concept. Soviet doctrine for ground air defense units stresses the following tasks:

- Detect/warn.
- Destroy aircraft far forward.
- Jam navigation, communication, and bombing systems.
- Destroy aircraft threatening troops.

To accomplish these tasks, Soviet doctrine requires rigid control over air defense activities. Target priorities are assigned through redundant communication links from air defense commanders located in remoted command and control posts. Advances in the mobility and survivability of this air defense umbrella are consistent with the Soviet doctrine of offense which emphasizes breakthrough tactics for armor units.

Soviet offensive operations call for the echeloning of forces in depth. This includes surface-to-air defense systems:

- Short-range air defense (SHORAD) systems defend all echelons of regiments and divisions from very low and low altitude attacks. They also defend command, control, and communications (C<sup>3</sup>) nodes; nuclear, biological, and chemical (NBC) delivery systems; lines of communication; logistics nodes; and airfields.
- Medium-range air defense systems defend each echelon and some installations from low and medium altitude attacks.
- Long-range air defense systems defend key installations from medium and high altitude attack, provide overwatch of the first echelon Army, and extend low to high altitude coverage into friendly airspace.

## SUPPRESSION MEASURES

If the Soviet air defense goal is to prevent our airpower from attacking its ground forces, the suppression of enemy surface-to-air threats is a high payoff joint effort. The initial tactic pursued unilaterally by both the Army and Air Force was to counter the surface-to-air threat by flying below radar coverage. But the more sophisticated the threat became, the lower our aircraft flew to avoid detection and threat tracking. This reduced air-power effectiveness by dividing aircrew attention between terrain avoidance and target acquisition. It degraded air-to-ground communication and complicated ordnance delivery. Also, long-range threats are forcing our stand-off systems to operate farther behind the FLOT, thereby reducing their effectiveness.

To solve the problem, we developed J-SEAD. During J-SEAD operations, Army and Air Force suppression systems (table 1-1) are selectively employed based upon the capability of the suppression system, the complexity of the suppression requirement, and the mission objective. At the same time, duplication of effort is avoided while preserving unity of effort. Suppression is accomplished by either destructive means, disruptive means, or a combination of the two.

TABLE 1-1. SUPPRESSION CAPABILITIES

Army	<ul style="list-style-type: none"><li>● Visual/sensor target acquisition</li><li>● Attack fighter</li><li>● Wild Weasel</li><li>● Support jamming</li><li>● Scatterable mines</li></ul>
Air Force	<ul style="list-style-type: none"><li>● Visual/sensor target acquisition</li><li>● Direct/indirect and observed/unobserved fires</li><li>● Jammers</li><li>● Remotely piloted vehicle</li><li>● Helicopter weapon platform</li><li>● Scatterable mines</li></ul>

### Destructive Means

Destructive suppression is used to destroy surface-to-air defenses or personnel. Its effects are cumulative, and friendly aircraft attrition is steadily reduced. But large demands are placed on combat power when destructive means are employed alone. Therefore, destructive means must be integrated and used with disruptive means, such as jammers, which generally are reusable resources.

### **Disruptive Means**

Disruptive means are used to temporarily degrade, deceive, delay, or neutralize surface-to-air defenses or personnel. There are two types of disruption suppression: active and passive. Active includes jamming, chaff, flares, and tactics such as deception and avoidance/evasion flight profiles. Passive includes camouflage, infrared shielding, warning receivers, and materiel design features. Disruptive means complement destructive means and are best used to—

- Degrade jammable threats.
- Assist destructive airborne suppression systems in suppressing surface-to-air defense systems.
- Temporarily degrade or neutralize enemy air defense systems when destruction is not possible or feasible.
- Sustain suppression effects achieved by destruction once the threats have been reduced to levels commensurate with the J-SEAD objectives.

## ARMY AND TACTICAL AIR FORCE RESPONSIBILITIES



### INTRODUCTION

Each service has unique suppression capabilities and a responsibility to support J-SEAD. Responsibilities are divided into execution and planning responsibilities.

### EXECUTION RESPONSIBILITIES

Execution responsibility is defined as the requirement to locate and engage enemy surface-to-air systems within J-SEAD areas of responsibility. The assignment of these J-SEAD execution areas is determined by system capabilities, threat suppression requirements, and mission objectives. The Army conducts J-SEAD operations primarily near the FLOT. Air Force J-SEAD operations increase with distance beyond the FLOT to compensate for a decrease in Army suppression capabilities.

The Army has primary execution responsibility for joint suppression of enemy air defenses from the FLOT to the limits of observed fire. The Army's greatest suppression capability is against those threats that can be engaged by observed fire. In this area, the Air Force has a secondary responsibility.

The Air Force has primary execution responsibility for joint suppression of enemy air defenses from the limits of observed fire to the limits of Army unobserved indirect fire (cannons and rockets). In this area, the Army has secondary responsibility. The Air Force also has responsibility for suppression of enemy air defenses beyond the limits of Army unobserved indirect fire. Army surface-to-surface systems may be used to complement Air Force suppression.

## PLANNING AND COORDINATION RESPONSIBILITIES

If we are to win on the battlefield, our tactical air forces and ground suppression systems must be capable of simultaneous action against enemy air defenses. The key, therefore, to successful J-SEAD operations is planning and coordination. These two important functions are the responsibility of various Army and tactical Air Force elements and the joint force commander (JFC). Table 2-1 shows J-SEAD planning and coordinating elements.

TABLE 2-1. J-SEAD PLANNING AND COORDINATING ELEMENTS

Joint Force	JOINT FORCE HEADQUARTERS	
Air Force Component	TACC	BCE
Army Corps	ASOC/TACP	G2/G3/FSE/AME
Army Division	TACP	G2/G3/FSE/AME
Army Brigade and Battalion	TACP	S2/S3/FSE
<b>Legend:</b>		
AME - airspace management element	FSE - fire support element	
ASOC - air support operations center	TACC - tactical air control center	
BCE - battlefield coordination element	TACP - tactical air control party	

## JOINT FORCE COMMANDER

The highest planning level for Army and Air Force J-SEAD operations is the joint force commander and his staff. The JFC provides general guidance on Army and Air Force operations. This guidance should be issued in the form of an objective statement (see note) that contains specifics for J-SEAD J-SEAD operations.

The JFC must insure that J-SEAD guidance is published in a timely manner so that air and ground component commanders have enough time to develop a J-SEAD campaign plan. J-SEAD guidance should be given to air and ground component commanders when they are first tasked to prepare plans for combat operations. This guidance should include—

- A brief narrative assessment of the enemy surface-to-air threat.
- Specific JFC J-SEAD objectives.
- Requirements for development of J-SEAD campaign plans to meet joint force J-SEAD objectives.
- Guidance for planning resource utilization.

- Assets retained at the joint force level which may be requested for J-SEAD operations, such as unconventional warfare support.

The JFC staff monitors J-SEAD operations through existing command and control facilities and evaluates the impact of J-SEAD operations on both friendly and enemy activities.

The JFC intelligence staff maintains a dynamic, theater-wide, all-source intelligence data base to support J-SEAD planning.

## **AIR FORCE**

The Air Force component commander (AFCC) has overall responsibility for J-SEAD campaign plans, J-SEAD campaign target priorities, and localized J-SEAD threat priority lists. Specifically, he—

- Gives subordinate commanders priorities for SEAD.
- Plans and directs Air Force support for SEAD.
- Requests SEAD support from other component commands when required.
- Plans and coordinates Air Force suppression efforts with Army elements.
- Collects intelligence on enemy air defenses and disseminates it to JFC, other components, and subordinate units.

The Air Force Component Headquarters (AFCH) is the command and staff element for the AFCC. The AFCH directs the Air Force effort. The size of the AFCH required in a joint operation depends upon the size of the surface and air forces involved.

Because of the scope of the air operation and the variety of missions to be performed, the AFCC cannot effect all detailed planning and execution of his forces. He therefore delegates detailed mission tasking, planning, and execution to subordinate echelons.

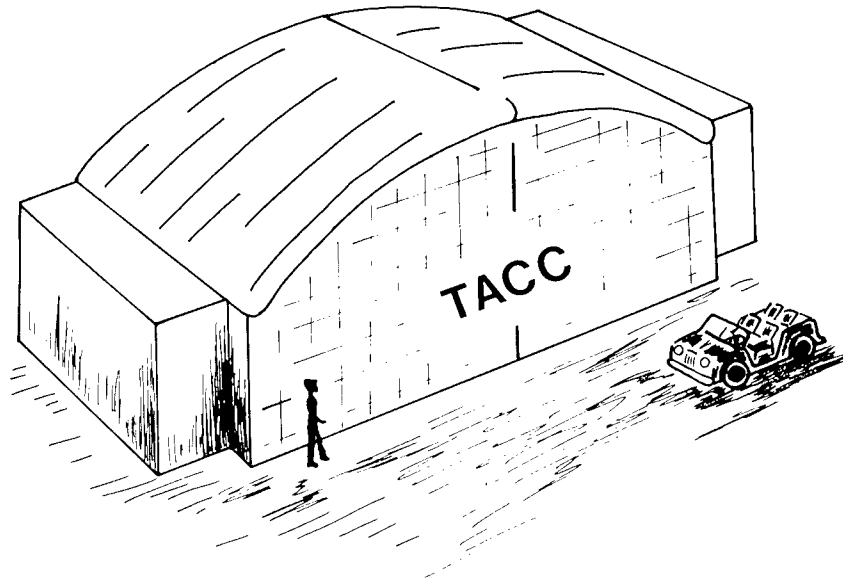
In theater operations, the command and control system supporting the AFCC is the tactical air control system (TACS). This system not only provides the interface, coordination, and integration link among all levels of the air component's forces, but also serves as the link between air and surface units. The TACS provides for the day-to-day planning and tactical employment of the Air Force component commander's forces. It extends the direction of air power from the air component command headquarters to the point of attack. Elements of the system are located at—

- Each combat unit.
- Points of interface with land forces.
- Dispersed sites in support of the air-surface battle.

The TACS facilitates centralized control and decentralized execution through planning and procedures.

### **The Tactical Air Control Center (TACC)**

The senior air operations element of a TACS is the TACC. The TACC is composed of operations, intelligence, and support personnel organized to plan, direct, and coordinate tactical air operations. This includes the Air Force portion of J-SEAD.



The TACC formulates and coordinates J-SEAD activities that complement the planning of tactical air mission requirements. It receives, assembles, analyzes, processes, and disseminates all-source intelligence to fulfill the requirements of the J-SEAD effort. In addition, it can display the tactical air and surface situation, using data from the enemy situation correlation division and Army intelligence organizations. Specifically, the TACC—

- Consolidates preplanned requests for air operations, to include corps-planned J-SEAD support and Air Force J-SEAD for Tactical Air Force missions.
- Provides the AFCC with Army and Air Force J-SEAD requirements to assist in the apportionment process.
- Tasks Air Force SEAD assets to support the overall SEAD plan based on the AFCC's allocation and corps commander's planned J-SEAD effort.

Several elements of the TACC contribute directly to J-SEAD operations. Their responsibilities and functions are described in table 2-2.

**TABLE 2-2. J-SEAD RESPONSIBILITIES AND FUNCTIONS OF TACC ELEMENTS**

**Director of Combat Operations (DCO)**

The director of combat operations has primary staff responsibility for TACC operations.

Coordinates J-SEAD matters with the director of combat intelligence (DCI) and all other TACC staff sections, as well as the battlefield coordination element (BCE), to insure all aspects of the J-SEAD mission are considered.

Coordinates with the BCE to insure understanding of Army and Air Force operational J-SEAD requirements and objectives.

Recommends to the AFCC, priorities for allocating critical resources for the J-SEAD effort.

Determines requirements and requests support from the Army for J-SEAD.

Plans, integrates, and directs offensive electronic warfare activities by subordinate units.

Monitors the J-SEAD effort.

Informs the DCI of support required for SEAD.

Tasks assigned airborne battlefield command and control center (ABCCC) assets to support air operations as required.

**Combat Plans Division**

The combat plans division develops the air tasking order (ATO). Included in the ATO are those task assignments necessary for J-SEAD.

Plans employment of assigned forces.

Publishes the ATO and other tasking documents.

**Command, Control, and Communications Countermeasures (C<sup>3</sup>CM) Branch**

The command, control, and communications countermeasures branch is composed of personnel who plan, coordinate, and task various activities associated with C<sup>3</sup>CM. Since these personnel have a mix of skills, the C<sup>3</sup>CM branch is responsible for SEAD planning and coordination as one facet of its tasking. Branch size and composition vary according to the contingency or commitment. The branch may also be an element of the specialized support planning branch.

Coordinates SEAD planning activities with other TACC agencies, the BCE, and the military intelligence group (combat electronic warfare intelligence (CEWI)) of the corps all-source analysis center (ASAC).

Assists other TACC branches (fighter, reconnaissance, special operations) with matters related to J-SEAD combat plans.

Monitors appropriate resources in support of J-SEAD tasking, to include electronic support measures, electronic countermeasures, and electronic counter-countermeasures.

Participates in the target nomination cycle with the targets branch.

Prepares J-SEAD inputs for the briefing at the commander's planning conference.

Maintains contact with ABCCC intelligence element for information update.

**The Combat Operations Division**

The combat operations division executes J-SEAD activities outlined in the ATO.

Insures that guidance and Air Force support requirements are integrated into overall daily air operations.

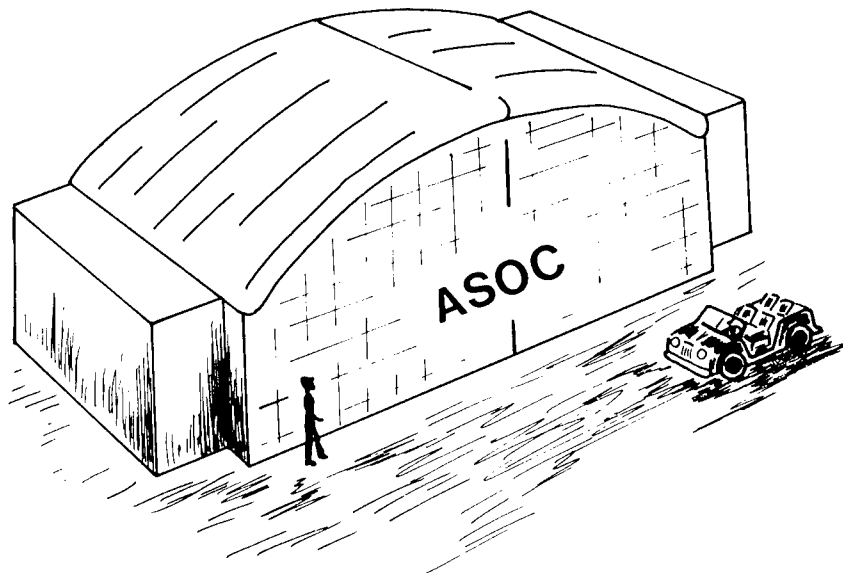
Coordinates operational and intelligence support committed to J-SEAD.

Provides overall coordination of SEAD with supporting Army elements through direct interface with BCE.

Maintains communications with the ABCCC (if available) for real time situation update.

### **Air Support Operations Center (ASOC)**

The air support operations center plans, coordinates, and directs tactical air support of ground forces. It is subordinate to the TACC and provides fast reaction to immediate requests for air support missions. The ASOC is normally collocated with a corps tactical operations center (CTOC). However, in the absence of a CTOC, the ASOC is located with the highest deployed tactical echelon of Army forces. The ASOC is involved with the exchange of combat data between air and ground forces and is concerned with the planning, coordination, and execution of tactical air support, including J-SEAD operations. ASOC personnel also assist the corps staff in requesting and coordinating Air Force SEAD in support of Army operations.



#### Intelligence Collection Management Branch (ICMB)

The director of combat intelligence develops the intelligence support needed for J-SEAD operations.

Receives, integrates, and validates intelligence requirements for SEAD.

Develops intelligence collection requirements and directs the collections management branch to provide support for J-SEAD.

Directs subordinate units to provide intelligence information regarding J-SEAD activities.

Correlates intelligence from all sources and develops an intelligence situation assessment of the J-SEAD mission area.

Provides the intelligence situation assessment to combat plans, air support operations center (ASOC), and subordinate Tactical Air Force organizations.

Insures the timely exchange of intelligence between the TACC and the corps ASAC.

Provides target nominations to the combat plans division and the combat operations division.

Insures exchange of intelligence between the ABCCC and the TACC.

#### Combat Operations Intelligence Branch (COIB)

The combat operations intelligence division supports the combat plans division in developing plans for projected operations. It consists of the operational intelligence, collection management, and targets branches. The targets branch provides target and weapons recommendations.

Helps project (find and follow) the movement of the enemy air defense threat.

Directs the collection efforts of Air Force sensor systems.

Requests support from Army and national intelligence systems.

#### Enemy Situation Correlation Division (ENSCD)

The enemy situation correlation division supports combat operations by providing information from a continuous flow of near-real time battlefield information. The ENSCD supports all planning, directing, and controlling functions of the TACC J-SEAD effort. It does this by providing information on current enemy air, missile, and ground force dispositions and intentions.

#### Battlefield Coordination Element (BCE)

The battlefield coordination element is the Army element at the TACC. It integrates the theater ground situation into the tactical air support management process and assures that the AFCC and the TACC are aware of the theater ground situation. The BCE also replaces and expands Army liaison element (ALE) functions. The TAC-TRADOC Air-Land Forces Interface (ALFI) draft document dated 1 April 1981 discusses additional functions and command relations pertaining to the BCE.

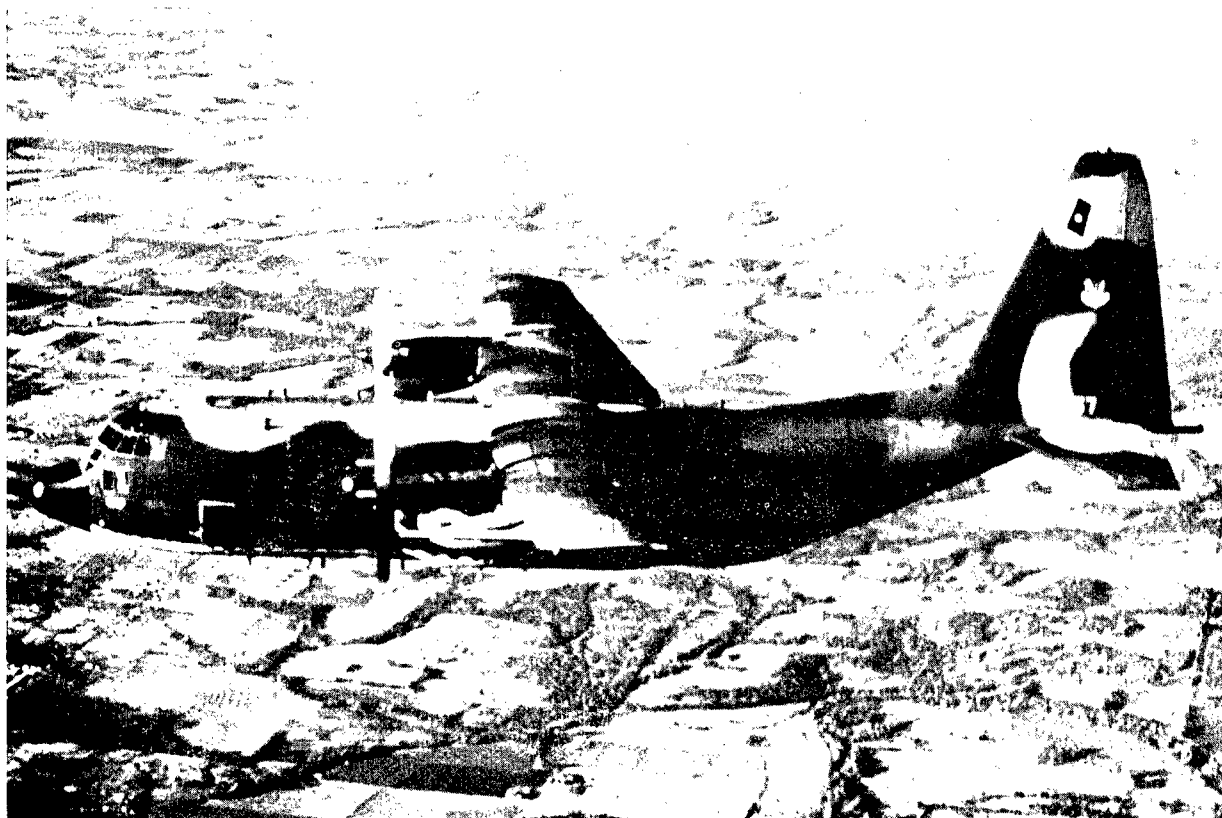
### **Airborne Battlefield Command And Control Center (ABCCC)**

The airborne battlefield command and control center is a C-130 aircraft with expanded communications and a battle staff capable of managing, coordinating, and directing tactical air support operations if tasked by the TACC. The ABCCC operates as an airborne extension of the TACC and provides command and control for aircraft operating beyond the range of ground-based communications.

The ABCCC can be used as an ASOC—

- Where tactical air operations of short duration or limited scope may not warrant establishment of a ground ASOC.
- When there may be a time before a ground ASOC becomes operational.
- When the ASOC is rendered inoperable.

As an airborne ASOC, the ABCCC is capable of exchanging combat data between air and ground forces concerning coordination and execution of tactical air support, including J-SEAD operations. To enhance air-land operations, corps representatives should be integrated into the ABCCC battle staff. In addition to its other mission requirements, the ABCCC assists in requesting and coordinating J-SEAD operations.



## **ARMY**

Elements of Army corps and divisions play an important role in J-SEAD operations. The corps requests, coordinates, and integrates J-SEAD efforts for air missions supporting corps combat operations. It provides J-SEAD support with corps resources and tasks subordinate units for J-SEAD support. It advises the BCE and ASOC of J-SEAD mission results and establishes fire priorities.

The corps also collects intelligence on enemy air defense systems and disseminates it to adjacent corps, subordinate units, ASOCs, and tactical air control parties (TACP).

The division has responsibilities similar to the corps', except at a lower level. It requests, coordinates, integrates, and conducts J-SEAD operations within the division area. It requests J-SEAD support from the corps and Air Force when required. The division also collects intelligence on enemy air defenses and disseminates it to corps, divisional units, and other units supporting the division.

### **Corps Elements**

Primary staff responsibility for corps combat operations rests with the G3. The G3 manages combat operations through the G3 section. This section implements the commander's tactical decisions.

The corps fire support coordinator (FSCOORD) manages the Army J-SEAD effort. This is accomplished through the corps fire support element (FSE). The FSE maintains current targeting information, prepares the corps J-SEAD portion of plans and orders, coordinates and tasks attack means, and monitors execution.

The G2 is responsible for intelligence. He develops intelligence requirements, priorities, scope, and focus of intelligence support needed to meet J-SEAD requirements. This is done in coordination with the all-source analysis center.

The ASAC is the intelligence and electronic warfare center for the military intelligence (MI) group at corps. The corps ASAC detects, locates, and projects the movement of the enemy air defense threat. It also maintains continuity with other elements, assesses the air defense threat, and reports appropriately. Specifically, the corps ASAC, responding to the J-SEAD tasking from the G2, directs the collection efforts of corps sensor systems and, when necessary, requests support from Air Force and national intelligence systems. J-SEAD intelligence derived from these sensor systems is forwarded to the corps G2, division ASAC, TACC, and the BCE. Data forwarded to the division ASAC provide the division commander with available intelligence on the location and identification of the air defense threat.

The communications-electronics (C-E) officer assists the ASAC. He is the coordinator for the use of the electromagnetic spectrum. He also manages the vast array of C-E and electronic-dependent weapon systems used by the corps.

Additional responsibilities and functions of these corps elements are in table 2-3.

**TABLE 2-3. J-SEAD RESPONSIBILITIES AND FUNCTIONS OF CORPS ELEMENTS**

<b>Corps J-SEAD Officer</b>	<p>Coordinate J-SEAD matters with other corps staff sections and the corps TACP to insure all aspects of J-SEAD are considered.</p> <p>Coordinate with the Air Force ASOC (located with the CTOC) to insure understanding of corps and Air Force operational objectives and J-SEAD requirements.</p> <p>Integrate corps J-SEAD requirements against the enemy's first and second echelon forces.</p> <p>Recommend priorities for allocating critical resources for the J-SEAD effort.</p> <p>Plan, integrate, and direct offensive electronic warfare activities through the FSE, electronic warfare support element, and MI group (CEWI).</p> <p>Monitor the J-SEAD effort through the FSE.</p> <p>Inform the G2 of intelligence support required for J-SEAD.</p>
<b>Corps Fire Support Element</b>	<p>Insure that the corps commander's guidance and Army support requirements are integrated into the overall fire support plan.</p> <p>Coordinate J-SEAD electronic warfare and intelligence support.</p> <p>Plan fires for those fire support systems under corps control.</p> <p>Task attack means subordinate to the corps.</p> <p>Provide overall coordination of the fire support effort with Air Force elements through direct interface with the G3 air, corps airspace management element, and ASOC.</p> <p>Interface with the ASAC for immediate target nomination input for J-SEAD.</p> <p>Provide the BCE with J-SEAD campaign mission results.</p>
<b>Corps ASAC</b>	<p>Receive, integrate, and validate requirements for J-SEAD intelligence.</p> <p>Develop intelligence requirements and direct the ASAC in the MI group (CEWI) to provide support for J-SEAD. Target requirements include priorities, time frames, general and specific locations, and enemy situation and coordination instructions.</p> <p>Task subordinate divisions for J-SEAD intelligence support.</p> <p>Help the FSE prepare the J-SEAD portion of operation orders.</p> <p>Receive correlated intelligence (all sources) from the corps ASAC and develop an intelligence situation assessment of the J-SEAD mission area.</p> <p>Give the intelligence situation assessment to the following: corps commander, G3, corps airspace management element, FSCoord, ASOC, subordinate divisions, lateral corps, JFC, and BCE.</p> <p>Insure the timely exchange of intelligence information among the corps ASAC, ASOC, and BCE.</p> <p>Tell subordinate divisions and internal CTOC staff elements of any order-of-battle changes affecting SEAD missions.</p> <p>Provide target nominations to the FSE.</p>

### **Division Elements**

Primary staff responsibility for division operations rests with the G3. The G3 directs combat operations through the G3 section. This section implements the commander's tactical decisions.

The division FSCOORD coordinates the J-SEAD effort through the FSE. The FSE maintains current targeting information and prepares the J-SEAD portions of plans and orders in coordination with other staff elements.

The G2 is involved with J-SEAD intelligence. He develops and coordinates intelligence requirements, priorities, and duration of intelligence support needed to meet J-SEAD tasking.

Another element concerned with intelligence is the division ASAC. The ASAC is the electronic warfare center for the MI battalion (CEWI) at division. Its job is to detect, locate, and project the movement of the enemy air defense threat within the division's area of interest. This element responds to J-SEAD requests from the G2, G3, and FSE. It directs the collection efforts of division sensors systems. When necessary, it requests intelligence, target acquisition, and electronic warfare support from the corps ASAC. The division ASAC also advises the FSE, division airspace management element, and G3 air of the location and identification of enemy air defense threats. To do this, it uses J-SEAD intelligence forwarded from the corps ASAC and intelligence derived from division sensor systems.

The C-E officer is another key person in J-SEAD operations. He coordinates with the corps on the use of the electromagnetic spectrum. He also integrates the use of C-E and electronic-dependent weapon systems used by the command.

Additional responsibilities and functions of the division elements described above are in table 2-4.

1. Translate G2 intelligence requirements into tasking instructions for MI group (CEWI) collection systems.

Translate G2 intelligence requirements into tasking instructions for MI group (CEWI) collection systems.

Task intelligence collection systems to validate, confirm, and improve target location accuracy and provide target identification and data.

Process and integrate information from all sources (division, corps, national, and Air Force) for J-SEAD target development.

Disseminate J-SEAD targeting information immediately to the FSE and G3 air.

Process and integrate information from all sources. Correlate this data with information on terrain, enemy doctrine, and enemy capabilities to produce a near-real time intelligence assessment for J-SEAD operations.

Disseminate the intelligence assessment to the CTOC, ASOC, subordinate divisions, and BCE.

Advise the G3 and FSE on electronic warfare support requirements for J-SEAD missions.

Provide guarded frequencies to corps and division elements in coordination with the C-E officer.

2. Advise the MI group (CEWI) and supporting organizations of those frequencies that must be protected from interference.

Advise the MI group (CEWI) and supporting organizations of those frequencies that must be protected from interference.

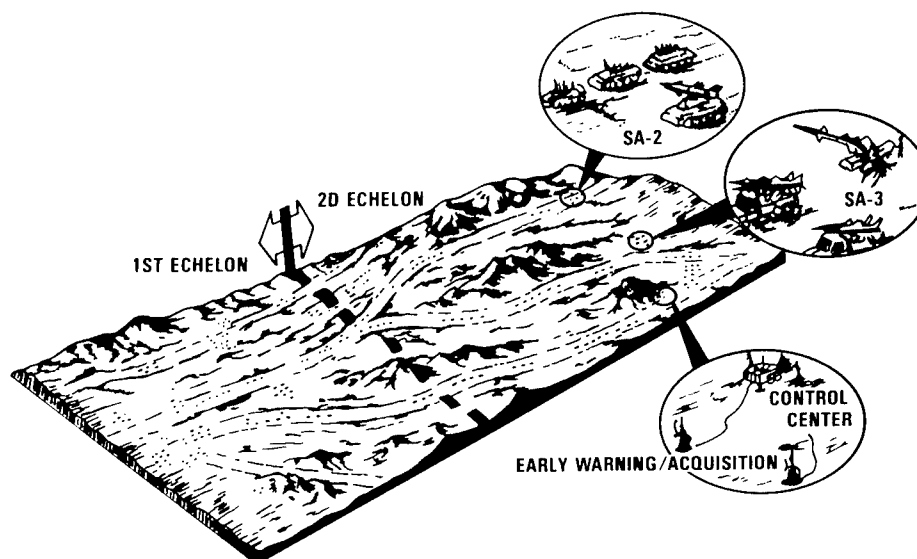
Advise the G3 on the status and feasibility of using suitable tactical C-E equipment in conjunction with SEAD operations.

Coordinate the use of the electromagnetic spectrum for communications with the ASOC.

TABLE 2-4. J-SEAD RESPONSIBILITIES AND FUNCTIONS OF DIVISION ELEMENTS

F3 Section	<p>Insure that J-SEAD is a planning consideration whenever tactical air support or helicopters are committed in the division.</p> <p>Conduct electronic warfare missions to disrupt enemy air defenses.</p> <p>Monitor the FSCoord's management of the J-SEAD effort.</p> <p>Coordinate J-SEAD matters with other staff sections to insure all aspects of the J-SEAD mission are considered.</p> <p>Integrate division J-SEAD requirements against the enemy's first and second echelon forces.</p> <p>Recommend priorities for allocating critical Army resources for the J-SEAD effort.</p> <p>Determine corps support requirements for J-SEAD operations.</p> <p>Plan, integrate, and direct offensive electronic warfare.</p>
Fire Support Element (FSE)	<p>Interface with the ASAC, division G3 air, division airspace management element, and G2.</p> <p>Insure that division SEAD support requirements are integrated into the overall fire support plan.</p> <p>Integrate all assets and operations conducted in support of J-SEAD.</p> <p>Plan J-SEAD fire support.</p> <p>Direct attacks on J-SEAD targets of opportunity based on established priorities and availability of attack means.</p>
G3 Section	<p>Receive, integrate, and validate J-SEAD intelligence requirements.</p> <p>Task the ASAC to provide intelligence support for J-SEAD. Target requirements include priorities, time frames, locations, and instructions.</p> <p>Direct subordinate units to provide intelligence support for J-SEAD missions.</p> <p>Help the FSE prepare the J-SEAD portion of operation orders.</p> <p>Receive from the division ASAC, intelligence from all sources and an intelligence situation assessment of the J-SEAD mission area.</p> <p>Give the intelligence situation assessment to the following: G3 air, division airspace management element, FSE, TACP, subordinate units, lateral divisions, and corps.</p> <p>Insure the timely exchange of intelligence information among the following: division ASAC, corps ASAC, and division TACP.</p> <p>Tell subordinate units and division staff elements of any order-of-battle changes affecting SEAD missions.</p> <p>Provide target nominations to the FSE.</p>

## J-SEAD CAMPAIGN



## INTRODUCTION

This chapter contains procedures for developing J-SEAD campaign plans. The development of these plans depends heavily on the timely exchange of J-SEAD information, as well as the service requirements and capabilities for J-SEAD execution. The initial J-SEAD campaign is planned and coordinated prior to hostilities. Follow-on campaigns have the same functional development as the initial J-SEAD campaign plan. They are also planned and executed as determined by the JFC. The command structure of a multicorps force was used as the model for developing this chapter.

## CONCEPT OF OPERATION

J-SEAD campaign operations are theaterwide efforts conducted concurrently with other air and ground campaigns. J-SEAD campaign operations are conducted against specific surface-to-air defense systems. Most campaign targets are well behind enemy lines. For this reason, J-SEAD campaigns rely heavily on Air Force suppression assets. Army surface-to-surface weapons may complement Air Force assets. Depending upon the results of the initial campaign and the enemy's ability to reconstitute, more than one campaign may be necessary during the course of the conflict.

### Initial Campaign Plan

Initial J-SEAD campaign plans are developed prior to hostilities and are conducted in the first days of the conflict (concurrently with localized J-SEAD). The initial J-SEAD campaign is conducted to suppress enemy longer range SAMs; early warning/acquisition (EW/ACQ) radars; and

AD 900-10-100-100  
(G-3)

Translate the G2 intelligence requirements for J-SEAD into tasking instructions for MI battalion collection systems.

Task intelligence collection systems to improve target locating accuracy and target identification.

Integrate information from division intelligence systems with information forwarded from corps ASAC for J-SEAD target development.

Disseminate J-SEAD targeting information immediately to the FSE and G3 air.

Integrate information from division intelligence systems with information on terrain, enemy doctrine, and enemy capabilities to produce a near-real time intelligence assessment of the J-SEAD mission area.

Disseminate the intelligence assessment.

Advise the FSE on electronic warfare support requirements for J-SEAD missions.

Coordinate electronic support measures and procedures for electronic warfare operations.

Control electronic warfare operations and coordinate with the FSE and G3 on electronic warfare tasks.

Provide guarded frequencies to division and corps.

Translate FSE requirements for electronic warfare support into technical instructions and give these instructions to the electronic warfare jamming systems of the MI battalion (CEWI).

Division Intelligence Requirements (DIR)  
Section

Advise the MI battalion (CEWI) and its supporting activities of those frequencies that must be protected from interference.

Advise the G3 on the status and feasibility of using suitable tactical C-E equipment in conjunction with J-SEAD operations.

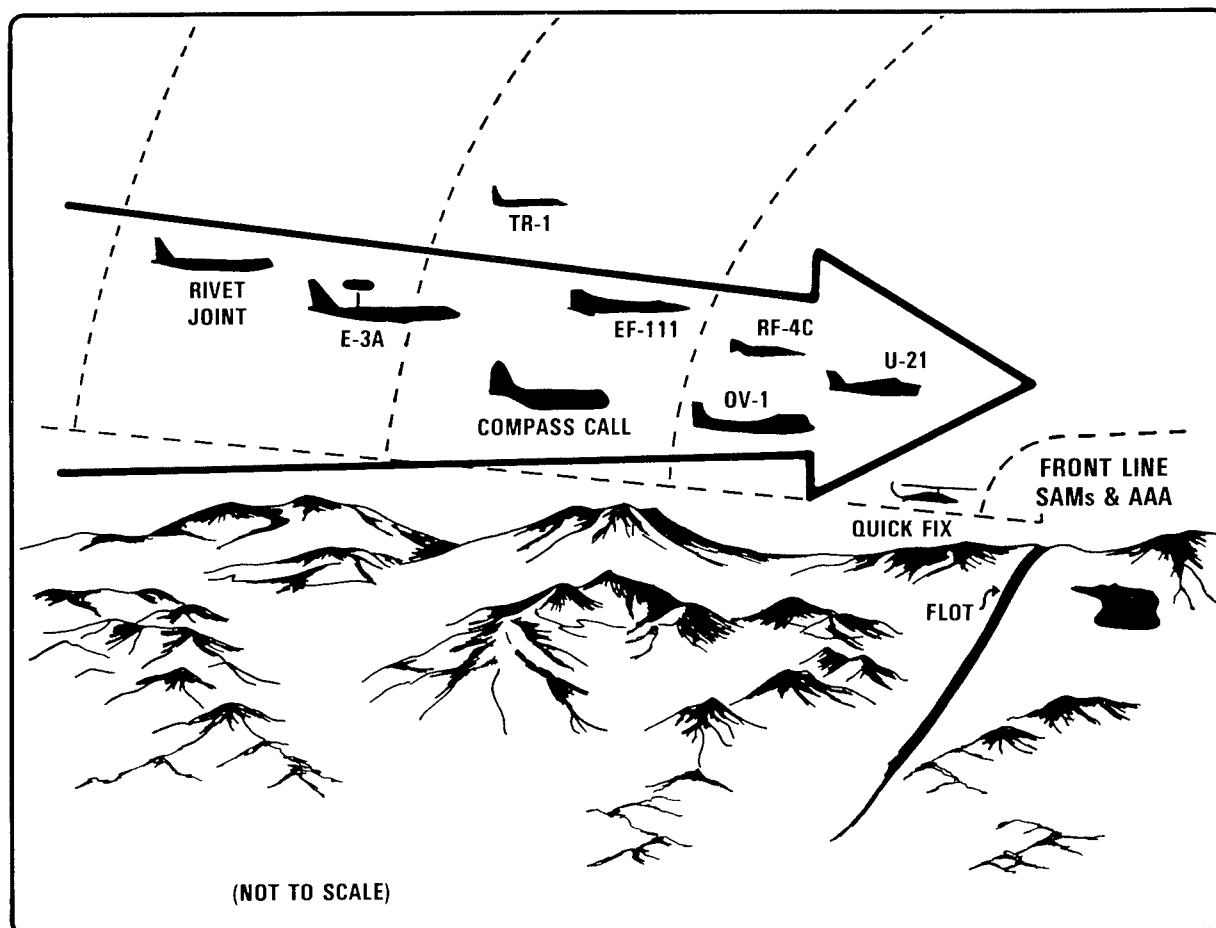
Coordinate the use of the electromagnetic spectrum for communications with other units operating in the division's area of influence, to include Air Force aircraft. This is done through the TACP.

associated C<sup>3</sup> that are in a position to destroy, degrade, or neutralize our standoff reconnaissance/intelligence/surveillance/target acquisition (RISTA), C<sup>3</sup> and support systems. In contrast to localized threats, these enemy systems are limited in number, usually influence a wide area, and often have the capability to engage friendly aircraft on both sides of the FLOT.

### Initial Campaign Objectives

The objectives of the initial campaign are to protect Army and Air Force standoff RISTA systems, jammers, C<sup>3</sup> and support assets; disrupt the cohesion of the enemy air defense systems; and assist in regaining tactical flexibility for friendly aircraft on both sides of the FLOT throughout medium and high altitudes. These objectives are of a higher priority than the objectives of localized J-SEAD because of the wide impact campaign targets have on airland operations (see figure 3-1). As objectives are achieved, initial J-SEAD campaign resources can be concentrated on surface-to-air defenses supporting the enemy's engaged forces.

FIGURE 3-1. INITIAL CAMPAIGN OBJECTIVES



## **PLANNING RESPONSIBILITIES**

The Army and Air Force must work as a team to prepare plans for suppression of enemy air defenses as shown in figure 3-2.

### **Joint Force Level**

Theater objectives for J-SEAD originate with the JFC's objective statement. This statement is applicable to all operations. In addition to requirements described in Joint Chiefs of Staff (JCS) Publication Number 2, it should also contain—

- An assessment of enemy surface-to-air threats.
- Specific suppression objectives.
- Guidance for planning resource utilization.
- Requirements for the development of a J-SEAD campaign plan.
- Recommended assets to be retained at joint force level which may be requested for J-SEAD.

The joint force commander issues guidance to his staff and component commanders. Based on this guidance, the AFCC tasks the TACC (in coordination with the BCE) to develop the initial J-SEAD campaign plan. (See appendix A for J-SEAD campaign scenario.)

### **National/Tactical Intelligence Level**

Intelligence support for the initial J-SEAD campaign plan is responsive to the JFC's statement of intelligence interest (SII). The SII identifies specific J-SEAD intelligence requirements to Army and Air Force collection managers. Intelligence will provide available information on—

- Characteristics, capabilities, locations, and order of battle of enemy air defense communication links and C<sup>3</sup> facilities.
- SAM and AAA sites, early warning ground control intercept (GCI) facilities.
- Radio electronic combat (REC) assets.

### **Component Headquarters Level**

The AFCC has overall responsibility for J-SEAD campaign planning. The AFCC exercises this responsibility through the TACC. The TACC is responsible to the AFCC for detailed development of J-SEAD campaign plans. It also integrates Air Force assets into that plan. The BCE interacts on joint planning and coordination with the TACC. The BCE's responsibilities include obtaining operation and intelligence information from the corps G2/G3 and integrating the corps' input (electronic warfare information and suppression resource availability) into the J-SEAD campaign plan. The corps also identifies, through the BCE, potential J-SEAD

campaign targets that should be suppressed to protect Army standoff airborne systems. The planning process for J-SEAD campaigns includes—

- Collating and analyzing J-SEAD target information.
- Determining requirements for suppression needs.
- Assigning target priorities.
- Determining the appropriate suppression means required.
- Recommending priorities for competing missions.
- Matching means and targets.
- Assessing results and effectiveness of J-SEAD efforts.

Within this planning process, the TACC and BCE are responsible for—

- Developing procedures for updating the J-SEAD campaign order of battle.
- Developing procedures for monitoring mission results against J-SEAD campaign targets.
- Developing J-SEAD target priorities.
- Recommending which Service is responsible for suppression of each target.

## THE INITIAL J-SEAD CAMPAIGN PLAN

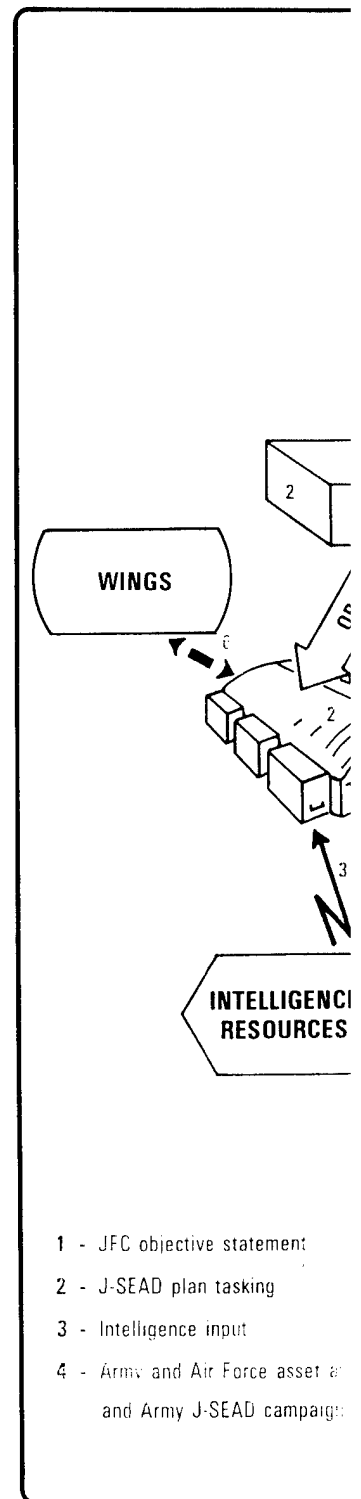
The product of this coordinated effort is an initial J-SEAD campaign plan that—

- Reflects JFC objectives.
- Contains a list of target systems selected for suppression.
- Designates service responsibility for suppressing targets.
- Outlines suppression resources to be used.
- Integrates destructive and disruptive planning efforts.

To preclude interference during execution, the plan considers resource utilization, radio frequencies, airspace controls (corridors, altitudes), and collateral effects in system application. The coordinated plan is submitted through the AFCC to the JFC for approval. Once approved, the plan is implemented through Air Force air tasking orders and Army operation plans and orders. Figure 3-2 shows functional relationships for J-SEAD campaign development.

The success of J-SEAD operations is monitored through respective C<sup>3</sup> and intelligence (C<sup>3</sup>I) structures. Intelligence relating to J-SEAD campaign effectiveness is routed to the TACC/BCE for assimilation. During the execution of the plan, there is a continuous requirement to update intelligence. Also, the TACC/BCE and the corps must coordinate to assess campaign effectiveness. For this reason, the TACC/BCE, ASOC, and corps FSE exchange mission results on all SEAD targets.

FIGURE 3-2. FUNCTIONAL RELATIONSHIPS FOR J-SEAD CAMPAIGN DEVELOPMENT



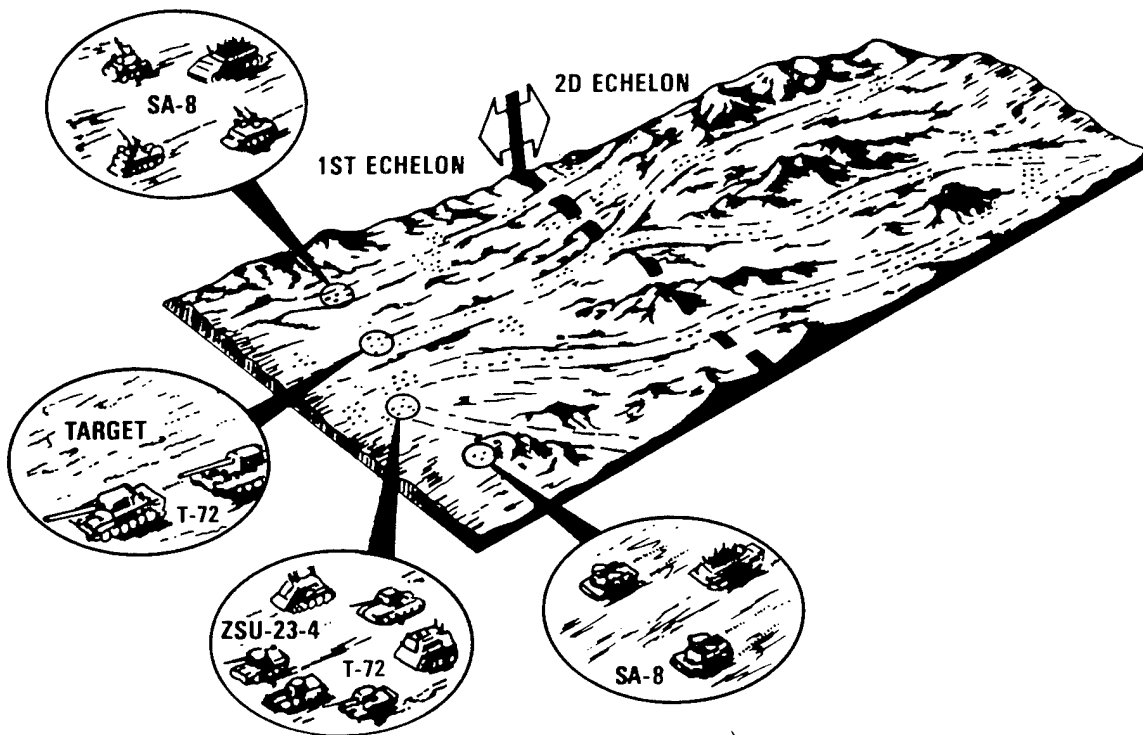
The diagram illustrates the J-SEAD planning process flow:

- JOINT FORCE COMMANDER** issues a **STATEMENT** (1) to the **AF COMPONENT COMMANDER**.
- The **AF COMPONENT COMMANDER** provides an **OBJECTIVE** (2) to **TACC-BCE**.
- TACC-BCE** and **CORPS HQ** coordinate (3, 4).
- TACC-BCE** develops the **J-SEAD CAMPAIGN PLAN** (5).
- CORPS HQ** provides input to the **J-SEAD CAMPAIGN PLAN** (6).
- The **J-SEAD CAMPAIGN PLAN** is submitted for approval (7) to the **JOINT FORCE COMMANDER**.
- The **JOINT FORCE COMMANDER** approves the plan (8) and issues the **APPROVED PLAN** to **TACC** and **CORPS HQ**.
- TACC** and **CORPS HQ** incorporate the plan into **ATO** (9) and **ARMY OPERATION PLAN**.
- The final output is **WINGS** (with a large 'X' over it).

**Legend:**

- 1 - JFC objective statement
- 2 - J-SEAD plan tasking
- 3 - Intelligence input
- 4 - Army and Air Force asset availability/capability and Army J-SEAD campaign target nomination
- 5 - J-SEAD plan development
- 6 - Coordination of plan between TACC and corps/wings
- 7 - J-SEAD plan submitted for approval
- 8 - Approved plan submitted for implementation
- 9 - Approved plan incorporated into ATOs, operation plans, and operation orders

## CHAPTER 4 LOCALIZED J-SEAD



### INTRODUCTION

Localized J-SEAD operations are conducted throughout hostilities. They are implemented to suppress enemy SHORAD and medium altitude surface-to-air defenses, electronic countermeasures, acquisition radars, and regimental and division air defense C<sup>3</sup>.

These threats are numerous, but individually influence a smaller area than campaign surface-to-air defense threats. Localized J-SEAD operations are conducted to suppress enemy surface-to-air defenses capable of reducing the effectiveness of Army and Air Force air missions.

### CONCEPT OF OPERATION

Localized J-SEAD operations are confined to geographical areas associated with specific ground targets. The objective of localized J-SEAD is to increase the effectiveness of the air-land battle by—

- Protecting friendly aircraft conducting air operations.
- Allowing friendly aircraft to operate in the low and medium altitudes.
- Protecting friendly aircraft while transiting the FLOT.

## PLANNING RESPONSIBILITIES

Localized J-SEAD planning must be integral to specific air mission planning. It originates with the echelon that initiates the request for the air mission. Planning is accomplished using the Tactical Air Control System/Army Air Ground System (TACS/AAGS) structure.

### Air Force

The AFCC recommends to the joint force commander the level of Air Force suppression effort available to support the air-land battle. The AFCC is also responsible for developing a localized surface-to-air threat priority list to facilitate economy of effort for J-SEAD. The Army may modify this list for unilateral Army air operation.

**Tactical Air Control Center.** The TACC plans Air Force suppression. It also coordinates through the BCE for Army J-SEAD to support Air Force missions initiated at the AFCC or joint force headquarters.

The localized threat priority list is developed by the TACC in coordination with the BCE. This list contains enemy surface-to-air defense systems (ZSU 23-4, SA-6, SA-7, C<sup>3</sup>, and so on) arranged in preferred suppression sequence from highest to lowest priority. The number of systems and the sequence depend upon known or postulated enemy surface-to-air order of battle and enemy system capabilities.

The localized threat priority list is also used to establish intelligence collection priorities for J-SEAD. Rapid evaluation of aircrew reports on the effectiveness of enemy systems is required to assess and, if need be, change the list once aircrews are engaged by these threats. The TACC gives the localized threat priority list to the operations and intelligence agencies of the JFC, ASOC, corps (G2/G3), and Air Force wings for further distribution as required.

**Air Support Operations Center.** The ASOC helps the corps plan for execution of localized J-SEAD. It participates in J-SEAD target nominations and weapon selections, keeps order-of-battle data, oversees J-SEAD mission results, and coordinates localized J-SEAD operations with the TACC and subordinate TACPs.

**Airborne Battlefield Command and Control Center.** When tasked as an interim ASOC, the ABCCC assists Army corps in the execution of J-SEAD. The ABCCC participates in J-SEAD target nominations and weapons selection, maintains battle damage assessment (BDA), insures the relay of BDA to TACC and the corps, and acts as a coordinator between the TACC and TACPs.

### Army

The availability of Army suppression systems is determined by the FSCoord in conjunction with the G3/S3. Field artillery is considered the Army's primary means of suppression. Attack helicopters, tanks, and mortars, as available and consistent with the ground commander's

guidance, are additional suppression assets. Electronic warfare units can also provide suppression.

TACPs help Army elements identify potential localized J-SEAD targets and request Air Force J-SEAD support. They coordinate requested Air Force J-SEAD support with the Army. TACPs also coordinate Army J-SEAD support for Air Force missions.

**REQUESTS**

Localized J-SEAD includes both Army- and Air Force-initiated J-SEAD. The J-SEAD process starts with the Army or Air Force unit that requests air operations. First consideration is given to those service suppression means organic to or available in support of the requesting unit. When J-SEAD requirements exceed the availability or capability of these means, the TACS/AAGS structure is used to request or coordinate interservice support.

**Army-Initiated J-SEAD**

The Army conducts J-SEAD or may submit a request for J-SEAD. The request may support either Army-requested Air Force missions or Army aviation operations. A typical request is shown at figure 4-1.

**FIGURE 4-1. ARMY-INITIATED J-SEAD REQUEST**

<div><div>AIR REQUEST FORM</div></div>	<div>TARGET IS/NUMBER OF SAM SA-6</div>
	<div>LOCATION AB 1221 TO AB 1241 TO AB 1121 TO AB 1141 COORDINATES</div>
	<div>REMARKS 2 SA-6 SYSTEMS OPERATING IN OBJECTIVE AREA REQUEST IS IN SUPPORT OF AIR ASSAULT OPERATIONS</div>

### **Army-Requested Air Force Missions**

The air mission request includes an identification of the threat protecting the target and the Army suppression committed to support the Air Force mission.

**Preplanned Missions.** The Army unit that initiates the request for Air Force support identifies, in the request, known or suspected enemy surface-to-air defenses around the target. As a preplanned request for Air Force support is processed, capabilities are assessed and suppression commitments are established. Each Army echelon refines and updates pertinent threat data. This information, along with the type of Army suppression committed, is indicated on the air request form as it is processed. Both destructive and disruptive systems should be considered in the preplanned process.

**Immediate Missions.** When processing an immediate air request, threat assessment and suppression requirements normally destructive in nature must be made quickly. Any echelon on the air request net (ARN) that can meet suppression requirements may enter the ARN in response to the specific J-SEAD request. Should an Army J-SEAD shortfall exist, the ASOC or ABCCC passes the request to the TACC for immediate J-SEAD support. Execution timing is based on mission data (which includes time on target) relayed from the ASOC or ABCCC to the requesting unit. If the predetermined Army commitment cannot be fulfilled, this information is relayed immediately to the ASOC or ABCCC through the nearest TACS element.

### **Army Aviation Operations**

Army aviation operations are planned in conjunction with and integrated into the ground scheme of maneuver. J-SEAD requirements are usually filled by Army air and ground suppression systems. The Army may, however, request Air Force suppression. Procedures for requesting Air Force suppression are the same as those for close air support (CAS). If the jointly coordinated Air Force suppression changes, the requesting unit is notified immediately via the ASOC/TACP.

### **Air Force-Initiated J-SEAD**

The Air Force conducts J-SEAD or may request J-SEAD from the Army to support the following operations:

- Air Force tactical missions while transiting the FLOT (corridor suppression).
- Air Force missions initiated by the Tactical Air Force (TAF) or joint force headquarters.

The Air Force usually meets these needs from its own resources. However, when J-SEAD requirements exceed the availability of Air Force systems,

In requests for corridor suppression, the TACC notifies the corps of the mission route and time. This includes a request for J-SEAD in the primary area of Army J-SEAD responsibility. The TACC initiates the request and passes the following information through the ASOC to the corps:

- Type target to be suppressed.
- Target location, if known.
- Effects required (usually disruptive in nature).
- Suppression time period required.
- Friendly aircraft information.

When a request for corridor suppression is approved at corps, the TACC notifies supported and controlling Air Force elements. Air Force control elements monitoring the air mission pass any deviations immediately to the corps. If the Army suppression changes, the unit changing the support immediately notifies the nearest TACS element.

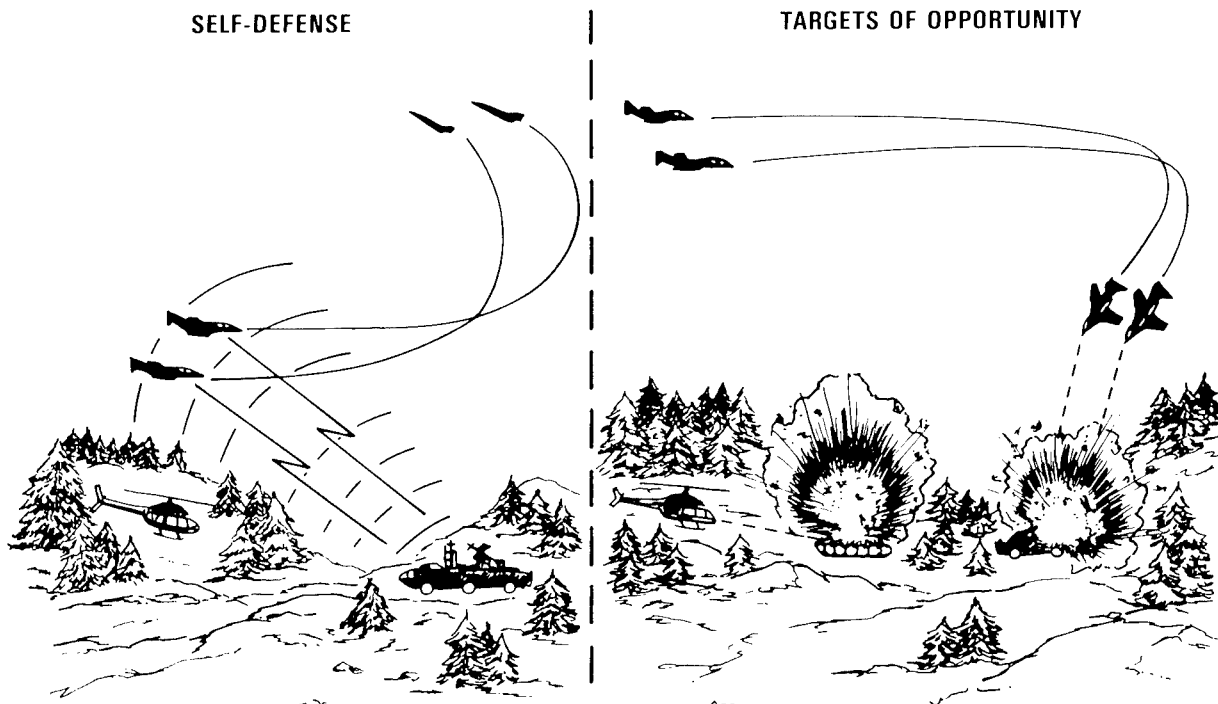
**FIGURE 4-2. AIR FORCE-INITIATED J-SEAD REQUEST FORMAT**

[illegible]

### **Headquarters-Initiated J-SEAD**

The TACC may initiate a request for J-SEAD to support joint force headquarters or TAF headquarters-initiated missions conducted within the limits of Army suppression capabilities. These requests are passed to the corps and are linked directly to specific air missions. Request format is the same as shown in figure 4-2.

## COMPLEMENTARY SUPPRESSION



### INTRODUCTION

Campaign and localized J-SEAD operations are based on known or suspected threats affecting friendly air operations. Many surface-to-air threats will not be detected in time to plan suppression assets. The suppression of these threats falls into the final category of J-SEAD complementary suppression. Complementary suppression includes aircrew self-defense and attacks against targets of opportunity.

### AIRCREW SELF-DEFENSE

Aircrews have the inherent right of self-defense. They employ self-protection systems and tactics when under imminent or actual attack by lethal enemy air defenses. Additional restrictions on self-defense decrease aircrew survivability. They should be imposed only for the safety of our own troops.

### TARGETS OF OPPORTUNITY

J-SEAD targets of opportunity are those enemy threat systems that—

- Appear during combat.
- Have not been scheduled for suppression.

Army and Air Force ground and air systems suppress surface-to-air targets of opportunity whenever capabilities, mission priorities, and ROE permit. Targets of opportunity can be attacked without danger to friendly ground forces so long as established ROE limits are observed. To enhance effective J-SEAD while minimizing risks to friendly ground forces, J-SEAD ROE apply.

#### **RULES OF ENGAGEMENT (ROE)**

Between the FLOT and fire support coordination line (FSCL), attacks may be conducted by Air Force aircraft without additional coordination only if—

- C Target acquisitions are confirmed visually or by sensors.
- C Ordnance is confined to the immediate vicinity of the enemy surface-to-air defense system.
- C Attacks are conducted outside no-fire areas.
- C Prohibiting instructions from either air or ground commanders have not been issued to the aircrew in the ATO or by the controlling agency, i.e., control and reporting center (CRC), forward air control post (FACP), and forward air controller (FAC), etc.

Beyond the FSCL, suppression attacks may be conducted by Air Force aircraft unless specifically prohibited in the ATO or by the air controlling agency (CRC, FACP, etc).

#### **Targets Acquired By Army Observers Or Air Force Forward Air Controllers**

The majority of the Army suppression effort may well be against targets of opportunity. Air Force TACPs are considered an integral part of the air-land operation. They will often be in a good place on the battlefield to acquire J-SEAD targets of opportunity. Unless restricted by the ground commander, ALOs and FACs are given the authority to request the suppression of targets of opportunity from the Army through its fire support channels or from Air Force assets via the TACS. The following procedures apply:

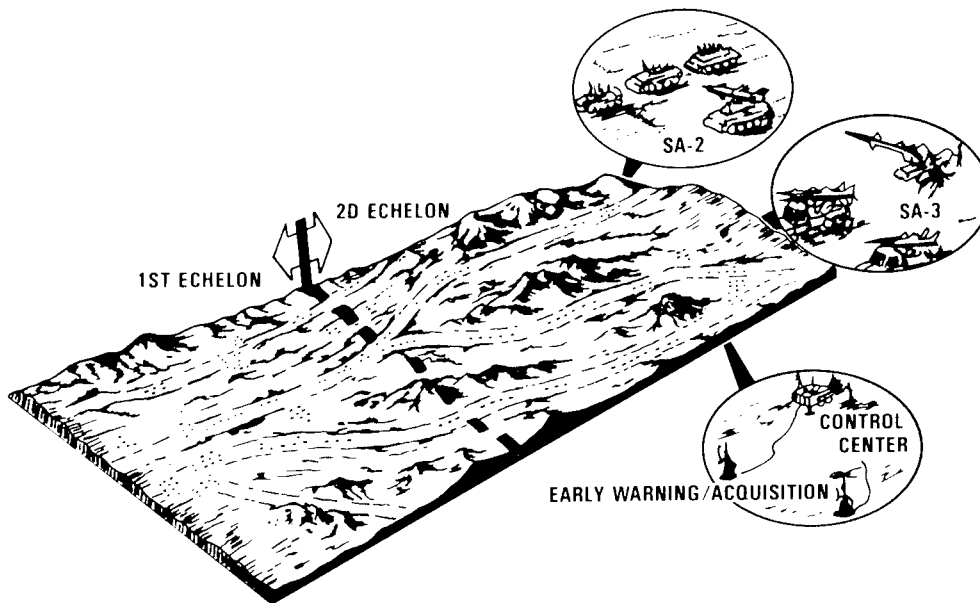
- If the suppression requirement exceeds the capabilities of the Army, an immediate request is transmitted via the air request net to the ASOC. If Air Force suppression assets are not available, the ASOC passes the request to the TACC.
- Suppression systems that belong to or support the Army unit acquiring the target are considered first because of their ability to respond immediately.

The ABCCC may develop targets of opportunity from ongoing activities or through airborne systems such as the tactical electronic reconnaissance (TEREC). The ABCCC, as the interim ASOC, may initiate an immediate air request for J-SEAD or, pending availability of TACC aircraft assets, request TACC support.

#### **Targets Acquired By Air Force Aircrews**

J-SEAD targets of opportunity acquired but not engaged due to mission priorities, system capabilities, or J-SEAD ROE are identified by the aircrew and given to the Air Force agency monitoring the mission. This agency immediately passes the targeting data to the ASOC for coordination with the corps on availability of suppression assets.

## J-SEAD CAMPAIGN SCENARIO



### INTRODUCTION

The commander of the Rapid Deployment Joint Task Force (RDJTF) has tasked his staff to prepare for a contingency conflict. An assessment of the enemy surface-to-air threat is a part of the planning process.

### OBJECTIVE STATEMENT

The JFC issues an objective statement to his staff and component commanders. The statement includes—

- Specific J-SEAD objectives.
- Guidance for planning and resource utilization to meet J-SEAD objectives.
- Requirements for the development of the J-SEAD initial campaign plan.
- Assessment of the enemy surface-to-air threat.

Specifically, the JFC wants his planners to consider long-range SAMs, early warning/acquisition radars, and associated C<sup>3</sup> systems. He feels that when these systems are suppressed, friendly airborne jamming, sensor, and C<sup>3</sup> systems will be able to operate closer to the FLOT. He also directs his planners to assess the results of the initial campaign and institute follow-on operations as necessary. Based upon this guidance, the AFCC directs the TACC, in coordination with the BCE, to develop the J-SEAD initial campaign plan for JFC approval.

## PLANNING

Elements of the TACC request intelligence information on the enemy surface-to-air defenses that affect Army and Air Force airborne sensors, jammers, and C<sup>3</sup> systems. For example, ABCCC, airborne warning and control systems, standoff target acquisition systems, and Guardrail systems. The BCE gathers data from the corps. The corps G2 provides surface-to-air threat intelligence information. The corps FSE, in coordination with the G2/G3, submits recommended target priorities and electronic warfare and resource availability. The FSE also submits a list of enemy surface-to-air defenses that threaten Army airborne standoff systems. The BCE integrates this information and develops target priorities and target engagement capabilities for the plan.

At the same time, the COID requests intelligence information from national, Air Force, and corps sources. This data is analyzed and processed. A campaign target list is developed which identifies specific surface-to-air threats. A continuous interface is maintained with the BCE in collating the threat data and developing the target list.

The combat plans division of the TACC then writes the plan in conjunction with the COID and BCE. Based on JFC guidance, the combat plans division analyzes and prioritizes the campaign target lists from both the COID and BCE and recommends responsibilities for target servicing. The integration of destructive and disruptive assets is also included in the plan.

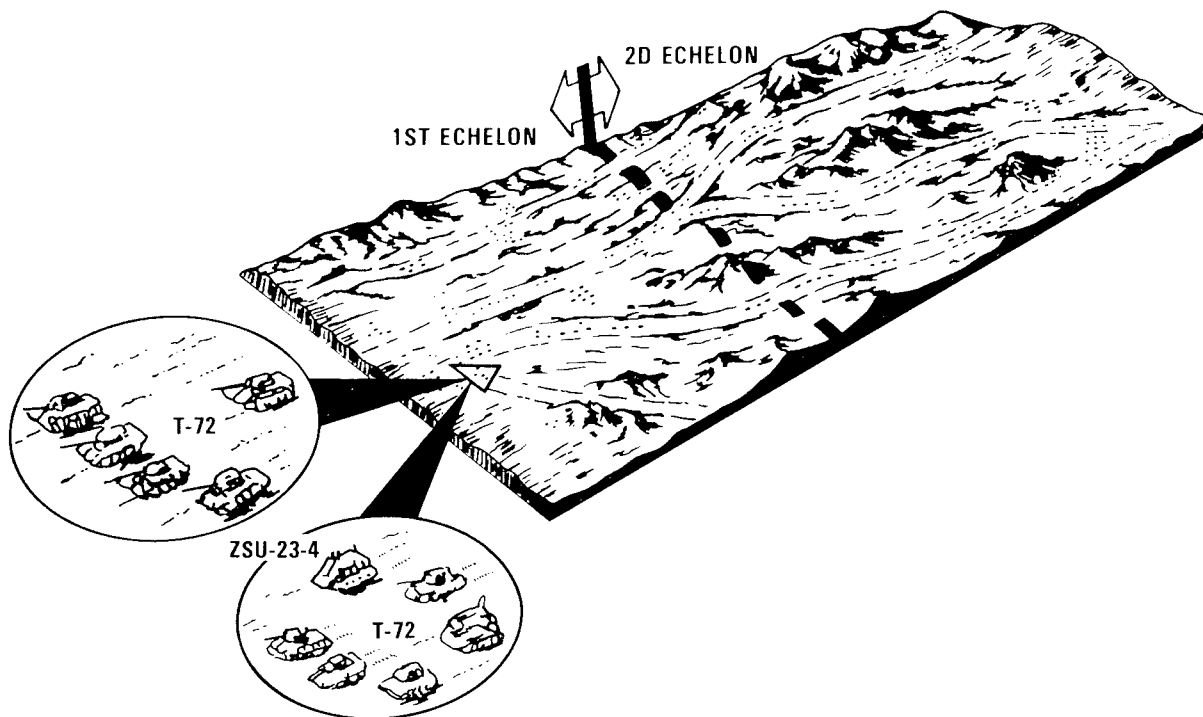
The BCE coordinates the plan with the Army corps. The AFCC is briefed on the proposed campaign plan. He then submits it to the JFC for final approval.

## EXECUTION

After the JFC approves the plan, it is distributed to subordinate commanders for execution through ATOs and Army operation plans or orders. The TACC, in coordination with the BCE, keeps the J-SEAD plan and target list updated consistent with current objectives, capabilities, and the threat environment.

APPENDIX F

## LOCALIZED J-SEAD SCENARIO



## INTRODUCTION

In response to a deteriorating political situation, a friendly nation has requested US assistance. A US joint force has been deployed and emplaced along a broad front bordering a hostile nation. Enemy forces have attacked Allied forces along the broad front. The joint force commander directed US Army and Air Force commanders to conduct the initial J-SEAD campaign. That campaign proved successful.

## PREPLANNED ACTIONS

The 2d Brigade, 10th Infantry Division (task organized) is in the main battle area. Friendly air reconnaissance has located parts of two enemy tank regiments. The brigade commander feels the enemy force is a major threat to his defensive sector.

### Planning

The brigade commander receives orders to attack the enemy tank regiments. As the brigade S3 develops the attack plan, the FSCoord, S3 air, and TACP prepare the integrated fire support plan and determine the requirements for localized J-SEAD.

The FSCOORD requests a target list from the brigade S2. The list includes the location of suspected or known—

- Enemy air defense weapon systems.
- Hostile air defense radar facilities.
- Command and control installations critical to the integration of the enemy localized air defense efforts.

The brigade commander receives estimates from the S2, S3, FSCOORD, S3 air, and TACP. He tells the FSCOORD to use direct support artillery against hostile air defenses that pose an immediate threat to the air operation. He then tells the S3 air to initiate a joint air attack team (JAAT) request against enemy tanks and air defenses in coordination with the TACP. The preplanned request for air support will include—

- The enemy surface-to-air threat.
- The recommended priority for suppression.
- Those threats that the Army will suppress.
- A request for additional Air Force J-SEAD assets, if needed.

The request is processed at division and corps. At the same time, corps discovers that an enemy SA-6 is a threat to the operation. But Army suppression is not available. A request is then passed to the BCE for TACC consideration, and the SA-6 is added to be suppressed.

At the TACC, the request for air support and J-SEAD assets is evaluated and approved. Suppression aircraft are integrated into the localized operation. The assets assigned to the mission are shown in table B-1.

### Execution

EF-111 and Wild Weasel support is planned and integrated at the TACC. EF-111 support is directed at enemy acquisition radars during the Wild

TABLE B-1. SUPPRESSION ASSETS FOR THE LOCALIZED J-SEAD PLAN

Service	Asset	Type of Suppression
Air Force	A-10 Aircraft	Destructive
	EF-111A Aircraft	Disruptive
	F-4G (Wild Weasel) Aircraft	Destructive
Army	Attack Helicopter Company	Destructive
	155-mm Howitzer Battalion	Destructive

Weasel and attack operations. Wild Weasel support is directed at the radars of short-range SAMs. Scout helicopters adjust fire for the 155-mm howitzer battalion.

## **IMMEDIATE ACTIONS**

During the operation, an A-10 pilot receives an in-flight warning of a SAM radar and relays this information to the FAC. The FAC then observes a SAM launch from the reported site.

The FAC requests an immediate suppression mission on the enemy surface-to-air target. The FAC puts the request, along with target data, on the air request net. This net is monitored by TACPs within the battalion, brigade, division, and corps tactical operations centers.

TACPs quickly consult with their FSCOORDs for possible Army suppression of the target. A battalion FSCOORD says that direct support artillery can provide suppression. The request for firing is transmitted to a 155-mm howitzer battery. The FSCOORD advises his TACP of the field artillery support. The TACP, in turn, notifies the FAC. The 155-mm howitzer battery fires the mission and destroys the SAM target.

APPENDIX G  
**TYPE FORMAT FOR J-SEAD PORTION OF  
COMMANDER'S OBJECTIVE STATEMENT**  
SECRET//NOFORN

Copy No \_\_\_\_\_

Issuing Headquarters

Place of Issue

Date/Time Group of Signature

**JOINT SUPPRESSION OF ENEMY AIR DEFENSES (J-SEAD)**

References: Maps, charts, and relevant documents.

1. **Mission.** State clearly and concisely the commander's overall J-SEAD objectives.
2. **Assessment of the Enemy Surface-to-Air Threat - Relative Combat Power.**
  - a. Type Systems.
  - b. Strength.
  - c. Composition.
  - d. Location and Disposition.
  - e. Reinforcements.
  - f. Logistics.
  - g. Time and Space Factors.
  - h. Combat Efficiency.
3. **Execution.**
  - a. Concept of Operations.
  - b. Specific J-SEAD Objectives.
  - c. Tasks (Guidance for Planning and Resource Utilization to Meet J-SEAD Objectives).
  - d. Requirement to Develop a J-SEAD Campaign Plan.
4. **Assumptions.**
5. **Coordinating Instructions.**
6. **Command and Signal.**

Signed \_\_\_\_\_ (Commander)

ANNEXES: As required.

DISTRIBUTION:

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APPENDIX E  
**TYPE FORMAT FOR CAMPAIGN PLAN**  
GENERAL INFORMATION

Copy No \_\_\_\_\_

Issuing Headquarters

Place of Issue

Date/Time Group of Signature

**CAMPAIGN PLAN FOR THE \_\_\_\_\_ COMMAND (AREA)**

(Number or Code Name)

References: Maps, charts, and relevant documents.

1. **Situation.** Give the general picture of the J-SEAD campaign so that recipients can understand the overall situation under the following headings:

- a. **Directive.** Provide a resume of pertinent data received from higher authority.
- b. **Enemy Forces.** Provide a summary of pertinent intelligence data, to include information on the composition, disposition, location, movement, strength, identification, and capability of enemy surface-to-air defenses. Separate assumptions from facts. If required, make reference to the intelligence annex.
- c. **Friendly Forces.** Give information about friendly forces that may influence the action of the command.
- d. **Assumptions.** State assumptions that apply to the plan as a whole.

2. **Mission.** State clearly and concisely the task and purpose of the J-SEAD campaign.

3. **Operations.**

- a. **Concept.** State the broad concept for employment of forces during the J-SEAD campaign.

- (1) **Scheme of maneuver.**
- (2) **Phases of operations.**
- (3) **Timing.**

- b. **Phase I.**

- (1) **Tasks.** List specific Army and Air Force campaign tasks.
- (2) **Concept.** Include scheme and time.
- (3) **Forces required.**
  - (a) **Army.**
  - (b) **Air Force.**

c. **Phase II.** Give the same information as shown in b above for this and any subsequent phase. Provide a separate phase for each step in the campaign. At the end, reorganize forces and initiate another action if required.

d. **Coordinating Instructions.** If desired, give instructions applicable to two or more phases, or multiple elements of the command may be placed in a final subparagraph.

**4. Logistics.** Give a brief, broad statement of logistical information or instructions. Information may be issued separately and referenced here.

**5. Command and Signal.**

a. **Command.** State command relationship for the entire campaign or any portion of it. Indicate shifts of command contemplated during the campaign, to include the time of the expected shift. Give the location of commander and command posts.

b. **Signal.**

(1) **Communications.** State communication plans. Information may refer to a standard plan or be contained in an annex. Include zone time; rendezvous, recognition, and identification instructions; code words; code names; liaison instructions; and axis of signal communications.

(2) **Electronics.** State plans for electronic systems. (Information may refer to a standard plan or be contained in an annex.) Include electronic policy and other information that is appropriate.

Signed \_\_\_\_\_ (Commander)

**ANNEXES:** As required.

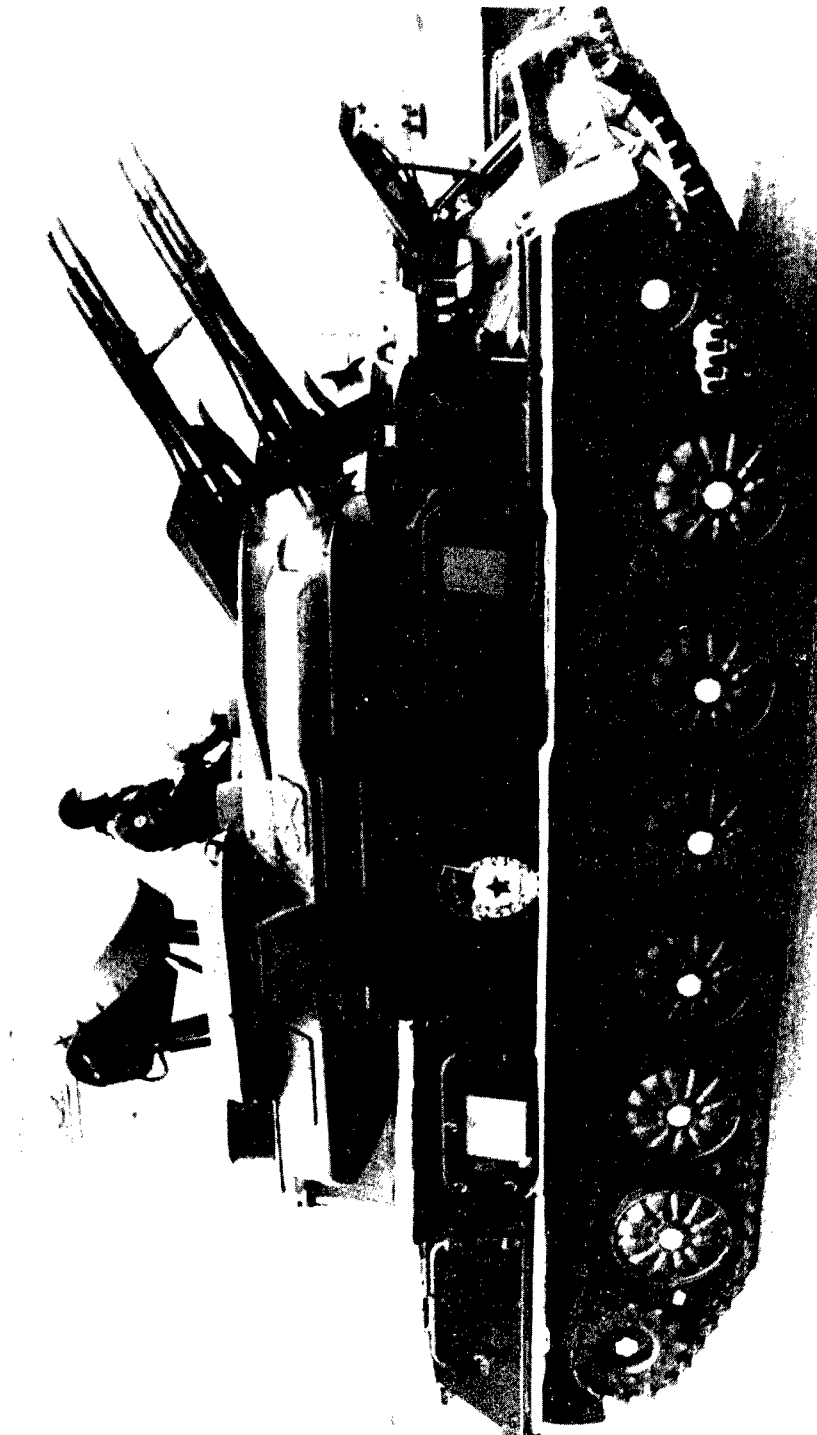
**DISTRIBUTION:**

SECRETARY OF DEFENSE

## SOVIET SURFACE-TO-AIR DEFENSES



The Soviets have developed a family of surface-to-air systems for the tactical defense of their field armies. These systems will confront Army and Air Force aircraft on the battlefield. They will be fielded in massive numbers and will most certainly be used to destroy or nullify the effectiveness of our tactical aircraft, regardless of type.



**ZSU-23-4 23-MM SELF-PROPELLED ANTIAIRCRAFT GUN**

This sophisticated weapon was introduced around 1966. It has a quad 23-mm gun and an on-board fire control radar system. It is assigned (along with the SA-9, GASKIN SAM) to the antiaircraft batteries of motorized rifle and tank regiments. The weapon is also used against lightly armored ground vehicles.

<b>Antiaircraft gun</b>	Quad 23-mm automatic gun, traverses 360 degrees
<b>Maximum effective range</b>	2,000-2,500 meters
<b>Rate of fire</b>	200 rounds per minute per barrel
<b>Type of ammunition</b>	Armor-piercing incendiary tracer; high-explosive incendiary tracer
<b>Basic ammunition load</b>	2,000 rounds
<b>Fire control</b>	Gun Dish radar and an optical-mechanical system
<b>Personal weapons of the crew</b>	Assault rifles and an RPG-7 antitank grenade launcher

<b>Type</b>	Variant of the ASU-85 self-propelled antitank gun chassis
<b>Weight</b>	12.7 metric tons
<b>Length</b>	6.5 meters
<b>Width</b>	2.9 meters
<b>Height</b>	3.8 meters
<b>Engine</b>	Diesel, 240 horsepower
<b>Suspension</b>	Tracks, six road wheels, no track support rollers
<b>Maximum road speed</b>	50 kilometers per hour
<b>Water-crossing ability</b>	Fords 1.1 meters
<b>Cruising range (on roads)</b>	450 kilometers
<b>Night vision aids</b>	Infrared system for commander and driver
<b>Crew</b>	Four (commander, driver, gunner, and radar operator)
<b>Maximum armor thickness</b>	9.2 millimeters in hull, 8.3 millimeters in turret
<b>Nuclear, biological, and chemical protection</b>	Air filtration and overpressure system



**S-60 57-MM SELF-PROPELLED ANTIAIRCRAFT GUN**

## SA-6 SAM (S-60) - S-60 SAM

The S-60 dates from about 1950. It is found in the air defense regiment of many tank and motorized rifle divisions. In many divisions, it has been replaced by SA-6, GAINFUL or SA-8, GECKO SAMs. The prime mover for the S-60 is usually the URAL-375 cargo truck. The weapon is also used against lightly armored ground vehicles.

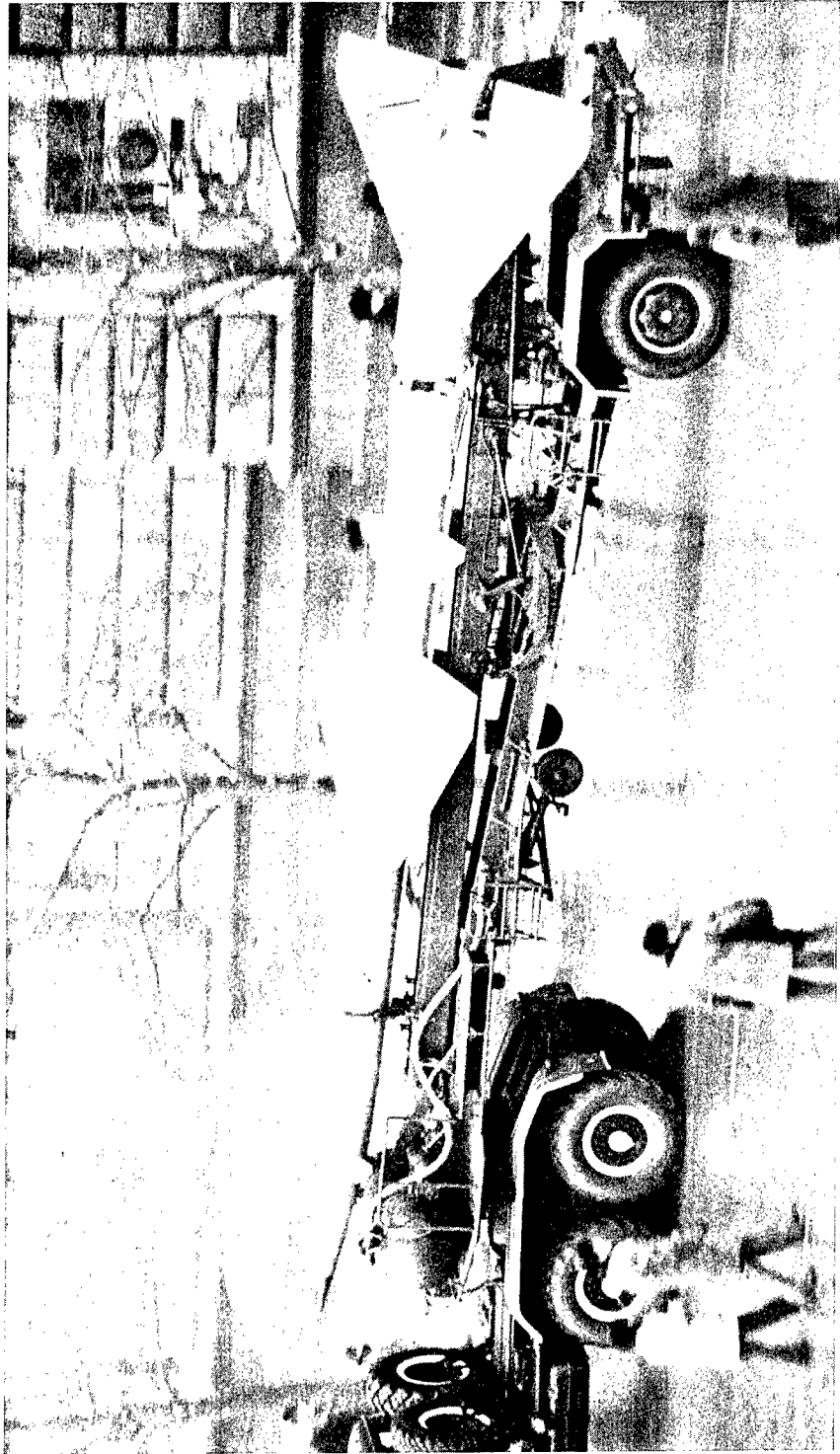
### Weapon

#### Specifications

<b>Antiaircraft gun</b>	57 millimeters, single barrel, traverses 360 degrees
<b>Maximum effective range</b>	8,000 meters vertical, 12,000 meters horizontal
<b>Rate of fire</b>	70 rounds per minute
<b>Type of ammunition</b>	Armor-piercing tracer; high-explosive tracer
<b>Basic ammunition load</b>	Unknown
<b>Weight of gun (travel position)</b>	4.7 metric tons
<b>Fire control</b>	Flap Wheel radar (mounted on separate van) and an optical-mechanical system
<b>Personal weapons of the crew</b>	Assault rifles and an RPG-7 antitank grenade launcher

#### Prime mover specifications

<b>Type</b>	URAL-375 general purpose cargo truck
<b>Weight</b>	8.4 metric tons
<b>Length</b>	7.4 meters
<b>Width</b>	2.7 meters
<b>Height</b>	2.7 meters
<b>Engine</b>	Gasoline, 175 horsepower
<b>Suspension</b>	Wheels, 6x6, centralized tire pressure regulation system
<b>Maximum road speed</b>	75 kilometers per hour
<b>Water-crossing ability</b>	Fords 1.5 meters
<b>Cruising range (on roads)</b>	650 kilometers
<b>Night vision aids</b>	Infrared system, can be fitted
<b>Crew</b>	One (driver)
<b>Passengers</b>	Gun crew
<b>Maximum armor thickness</b>	None
<b>Nuclear, biological and chemical protection</b>	None

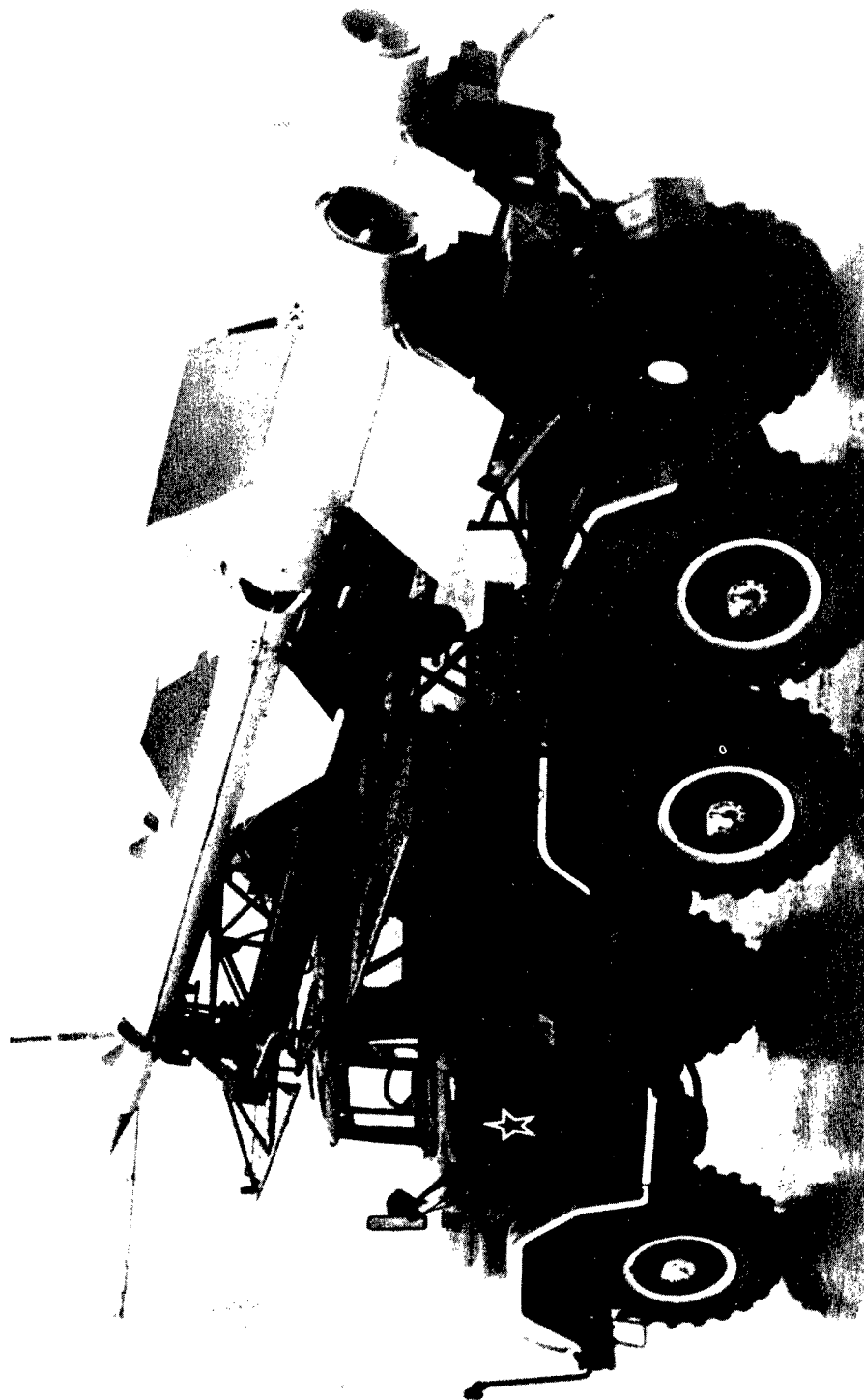


SA-2 GUIDELINE SAM

This system is primarily a rear area National Air Defense Command weapon. It was introduced in the late 1950s.

#### **ARMAMENT**

<b>Launcher</b>	Two or four launch rails, ground-mounted (not mobile)
<b>Missile</b>	SA-2, solid fuel booster with liquid fuel sustainer
<b>Maximum effective range</b>	45 kilometers
<b>Type of warhead</b>	High explosive
<b>Fire control</b>	Fan Song radar, optical system
<b>Other associate radars</b>	Spoon Rest target acquisition
<b>Personal weapons of the crew</b>	Assault rifles and an RPG-7 antitank grenade launcher



SA-3 GOA SAM

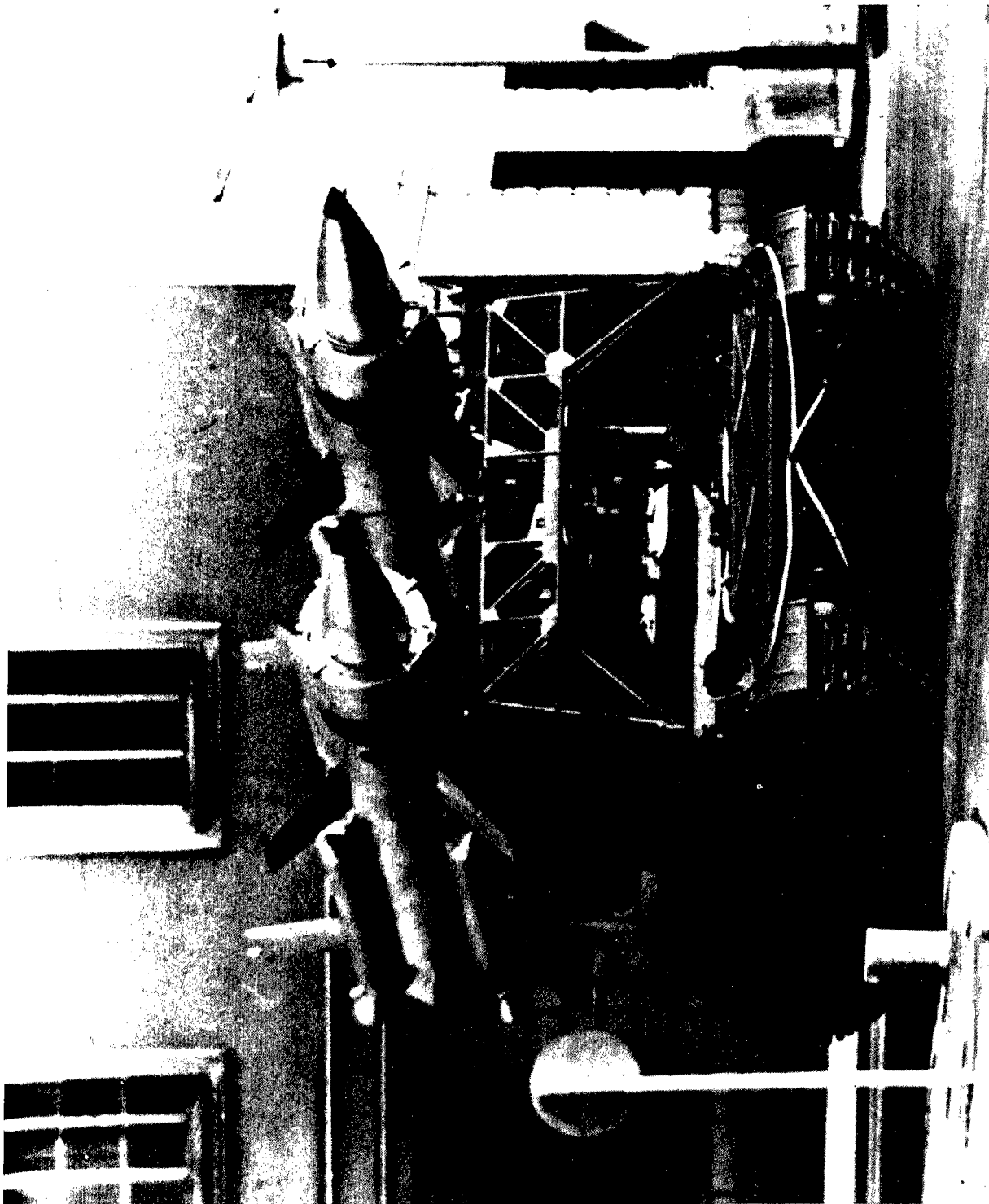
## SA-3 SAM

This system is primarily a rear area National Air Defense Command weapon. It was introduced in the early 1960s.

## GENERAL NOTES

### ARMAMENT

Launcher	Two or four launch rails, ground-mounted (not mobile)
Missile	SA-3, solid fuel booster and solid fuel sustainer
Maximum effective range	20 to 25 kilometers
Type of warhead	High explosive
Fire control	Low Blow fire control radar, optical system
Other associated radars	Flat Face target acquisition and Squat Eye target acquisition
Personal weapons of the crew	Assault rifles and an RPG-7 antitank grenade launcher



SA-4 GANEF SAM

## SA-2 SAM

This system was the Soviet's first mobile SAM and was introduced around 1967. It is an army-level and front-level weapon.

## Specifications

### Launcher

#### Launcher

Two launch rails, traverses 360 degrees

#### Missile

SA-2, solid fuel boosters and liquid fuel sustainer

#### Maximum effective range

More than 70 kilometers

#### Type of warhead

High explosive

#### Basic load

Two missiles

#### Fire control

Pat Hand fire control radar, electro-optical system

#### Other associated radars

Long Track target acquisition and Thin Skin height finder

#### Personal weapons of the crew

Assault rifles and an RPG-7 antitank grenade launcher

### Vehicle Characteristics

#### Weight

About 30 metric tons

#### Length

7.3 meters

#### Width

3.2 meters

#### Engine

Diesel, 600 horsepower

#### Suspension

Tracks, seven road wheels, four track support rollers

#### Maximum road speed

50 kilometers per hour

#### Water-crossing ability

Fords about 1 meter

#### Cruising range (on roads)

500 kilometers

#### Night vision aids

Infrared system for commander and driver

#### Crew

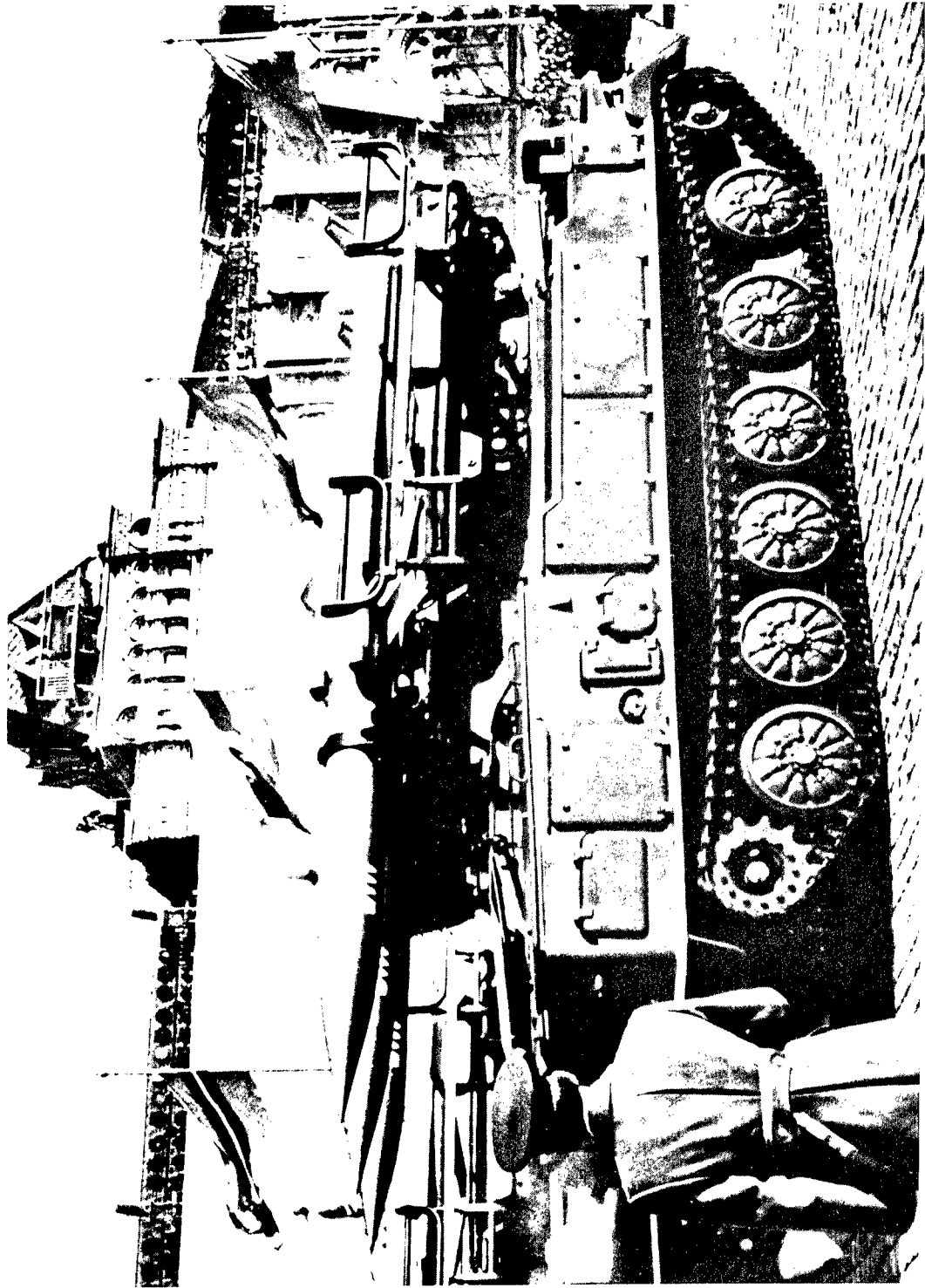
Three (commander, driver, and gunner)

#### Maximum armor thickness

Unknown

#### Nuclear, biological, and chemical protection

Yes



SA-6 GAINFUL SAM

The Soviets first displayed this weapon in 1967. It is a replacement for the 5-60 anti-aircraft gun and is currently assigned to the air defense regiments of a number of motorized rifle and tank divisions. The vehicle for the SA-6 was developed from the ZSU-23-4 self-propelled anti-aircraft gun chassis. It is not amphibious.

<b>Launcher</b>	Three launch rails, traverses 360 degrees
<b>Missile</b>	SA-6, solid fuel booster with solid fuel sustainer
<b>Maximum effective range</b>	30 kilometers
<b>Type of warhead</b>	High explosive
<b>Basic load on vehicle</b>	Three missiles
<b>Fire control</b>	Straight Flush radar mounted on a separate vehicle (same type chassis) and an electro-optical system
<b>Other associated radars</b>	Flat Face target acquisition, Long Track target acquisition, and Thin Skin height finder. Straight Flush also has a short-range target acquisition capability.
<b>Personal weapons of the crew</b>	Assault rifles and an RPG-7 antitank grenade launcher

<b>Type</b>	Variant of the ZSU-23-4 chassis
<b>Weight</b>	14 metric tons
<b>Length</b>	6.9 meters (7.5 meters counting missiles)
<b>Width</b>	3.2 meters
<b>Height</b>	3.3 meters
<b>Engine</b>	Diesel, 240 horsepower
<b>Suspension</b>	Tracks, six road wheels, no track support rollers
<b>Maximum road speed</b>	45 kilometers per hour
<b>Water-crossing ability</b>	Fords 1.1 meters
<b>Cruising range (on roads)</b>	250 kilometers
<b>Night vision aids</b>	Infrared system for commander and driver
<b>Crew</b>	Three (commander, driver, and gunner)
<b>Maximum armor thickness</b>	15 millimeters
<b>Nuclear, biological, and chemical protection</b>	Air filtration and overpressure system



SA-7 GRAIL SAM

## SA-7 GRIFFIN SAM

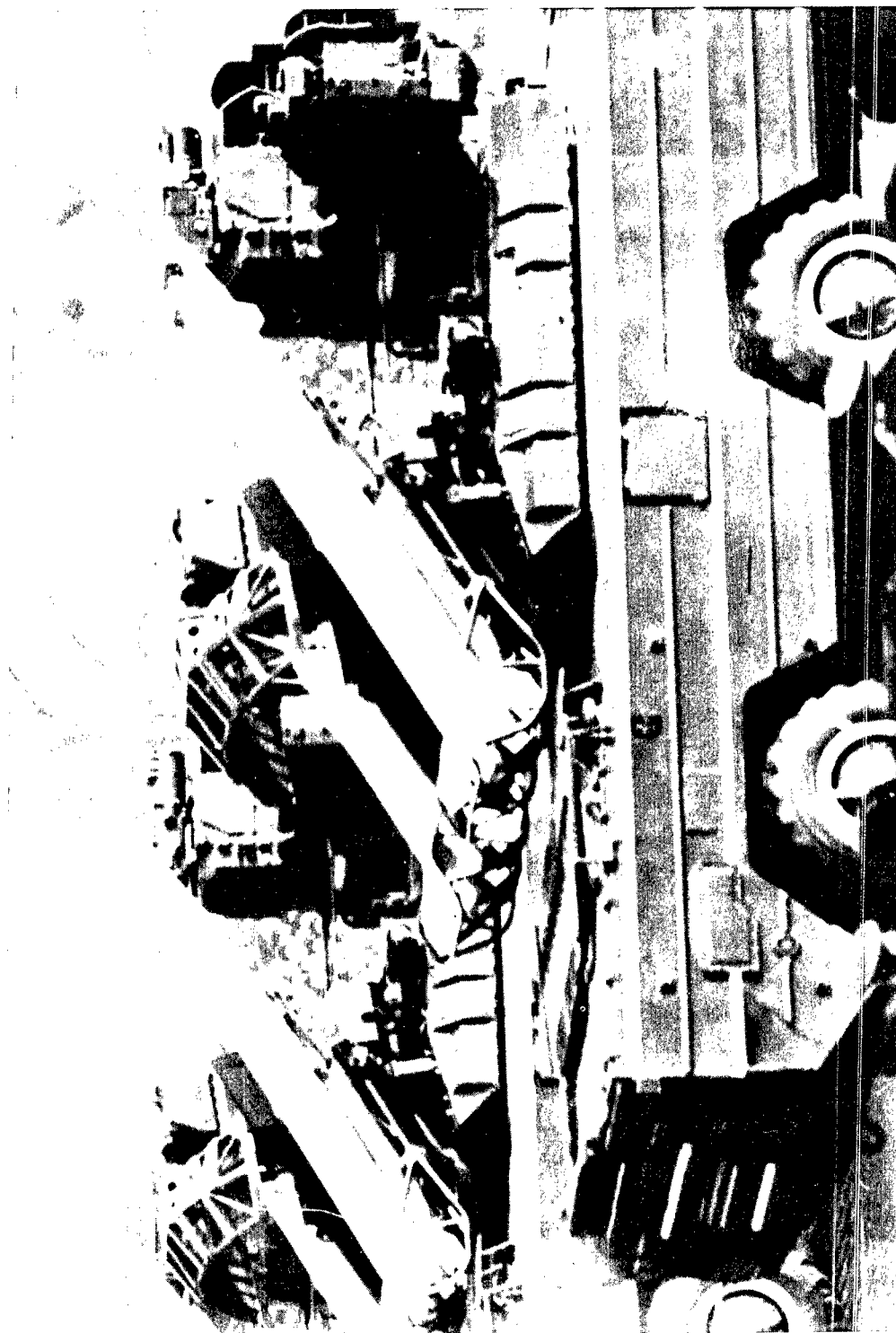
Like the US Redeye SAM, the SA-7 is fired from the shoulder and has a grip-stock launcher. This weapon, introduced in the late 1960s, is widely distributed. Each motorized rifle company, for instance, has three of them.

## CHARACTERISTICS

### ARMAMENT

Launcher	Hand-carried, shoulder-fired, reloadable grip stock
Missile	SA-7, solid fuel
Guidance	Infrared homing
Maximum effective range	5 to 6 kilometers
Type of warhead	High explosive
Basic load with launcher	One missile; additional missiles are carried in the gunner's armored personnel carrier

NOTE: SA-7 gunner usually operates it in pairs of personnel armors.



SA-8 GECKO SAM

This new SAM was introduced around 1974. Like the ZSU-23-4, it has an on-board radar system. The large boat-like vehicle is amphibious. The SA-8 replaces the S-60 antiaircraft gun and is currently assigned to the air defense regiments of some motorized rifle and tank divisions.

<b>Launcher</b>	Four launch rails, traverses 360 degrees
<b>Missile</b>	SA-8, solid fuel
<b>Maximum effective range</b>	10 to 15 kilometers
<b>Type of warhead</b>	High explosive
<b>Basic load</b>	Four missiles
<b>Fire control</b>	Land Roll radar system mounted on the vehicle
<b>Other associated radars</b>	Flat Face target acquisition, Long Track target acquisition, and Thin Skin height finder. Land Roll also has a short-range target acquisition capability.
<b>Personal weapons of the crew</b>	Assault rifles and an RPG-7 antitank grenade launcher
<b>Weight</b>	Unknown
<b>Length</b>	9 meters
<b>Width</b>	2.9 meters
<b>Height (with radar folded down)</b>	4 meters
<b>Engine</b>	Diesel
<b>Suspension</b>	Wheels, 6x6, centralized tire pressure regulation system
<b>Maximum road speed</b>	Unknown
<b>Water-crossing ability</b>	Amphibious, propelled by two water jets
<b>Maximum water speed</b>	Unknown
<b>Cruising range (on roads)</b>	Unknown
<b>Night vision aids</b>	Infrared system for commander and driver
<b>Crew</b>	Four (commander, driver, gunner, radar operator)
<b>Maximum armor thickness</b>	Unknown
<b>Nuclear, biological, and chemical protection</b>	Probably



SA-9 GASKIN SAM

This SAM system was introduced around 1968. The vehicle, a variant of the BRDM-2 scout car, is amphibious. The missile appears to be larger than the SA-7, GRAIL SAM. The SA-9 SAMs are assigned (along with ZSU-23-4 self-propelled guns) to the antiaircraft batteries of motorized rifle and tank regiments.

<b>Launcher</b>	Four detachable launch canisters, traverses 360 degrees
<b>Missile</b>	SA-9, solid fuel
<b>Guidance</b>	Infrared homing
<b>Maximum effective range</b>	8 kilometers
<b>Type of warhead</b>	High explosive
<b>Basic load</b>	Four missiles
<b>Fire control</b>	Optical-mechanical system
<b>Personal weapons of the crew</b>	Assault rifles and an RPG-7 antitank grenade launcher

<b>Weight</b>	7 metric tons
<b>Length</b>	5.8 meters
<b>Width</b>	2.4 meters
<b>Height (with launcher rack down)</b>	2.3 meters
<b>Engine</b>	Gasoline, 140 horsepower
<b>Suspension</b>	Wheels, 4x4, centralized tire pressure regulation system
<b>Maximum road speed</b>	100 kilometers per hour
<b>Water-crossing ability</b>	Amphibious, propelled by water jet
<b>Maximum water speed</b>	10 kilometers per hour
<b>Cruising range (on roads)</b>	750 kilometers
<b>Night vision aids</b>	Infrared system for commander and driver
<b>Cruising range (on roads)</b>	Three (commander, driver, and gunner)
<b>Maximum armor thickness</b>	7 millimeters
<b>Nuclear, biological, and chemical protection</b>	Air filtration and overpressure system

## **DEFINITIONS**

The terms defined below convey the basis upon which decisions were made in developing this publication. Most are accompanied by definition sources. If no source is indicated, the definition was derived by members of the J-SEAD Tactical Air Command/Training and Doctrine Command Joint Work Group responsible for developing this publication.

### **Airborne Battlefield Command and Control Center (ABCCC)**

A C-130 aircraft with expanded communications and a battle staff designed to coordinate tactical air operations. (TAC-XPJ)

### **Air Interdiction**

Air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces, at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. (Joint Chiefs of Staff Publication Number 1)

### **Attrition**

The reduction of the effectiveness of a force caused by loss of personnel and material. (Joint Chiefs of Staff Publication Number 1)

### **Attrition Rate**

A factor, normally expressed as percentage, reflecting the degree of losses of personnel or material due to various causes within a specified period of time. (Joint Chiefs of Staff Publication Number 1)

### **Battlefield Coordination Element (BCE)**

The BCE formalizes Army liaison at the TACC. It integrates the theater ground situation into the tactical air support management process. The element also replaces and expands Army Liaison Element (ALE) functions. The BCE assures that the TACC and the AFCC are aware of the theater ground situation. For this reason, it serves as an expeditor and interpreter of information—both from the Army to the Air Force and vice versa. As part of the planning process, the JFC provides an integrated battlefield air interdiction (BAI) target list and reconnaissance requirements to the AFCC. The BCE, however, acts in those situations where time or lack of communications prevents consultation with the joint commander. In such cases, the BCE distributes CAS sorties among the corps. It also consolidates and provides the corps' prioritized BAI target lists and reconnaissance requirements to the AFCC for execution. (TRADOC-ATDO and TAC-XPJ)

## **Campaign Plan**

A plan for a series of related military operations aimed to accomplish a common objective, normally within a given time and space. (Joint Chiefs of Staff Publication Number 1).

## **Compass Call**

An electronic combat version of the C-130H aircraft designated as EC130-H. Contains electronic equipment designed to jam enemy communications. (TAC-DO)

## **Complementary Suppression**

Suppression engagements conducted by aircraft in self-defense and the offensive attack against surface-to-air targets of opportunity by other weapon systems.

## **Deception**

Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce him to react in a manner prejudicial to his interests. (Joint Chiefs of Staff Publication Number 1)

## **Destructive Means**

Military action employed to physically damage or destroy enemy surface-to-air systems or personnel. (TRADOC Pamphlet 525-9 and TAC Pamphlet 50-24)

## **Direct Fire**

Fire directed at a target which is visible to the aimer. (Joint Chiefs of Staff Publication Number 1)

## **Disruptive Means**

Military action employed to damage, degrade, deceive, delay, or neutralize enemy surface-to-air systems temporarily. There are two types of disruptive means: active and passive. Active includes jamming, chaff, flares, and tactics such as deception and avoidance/evasion flight profiles. Passive includes camouflage, infrared shielding, warning receivers, and material design features. (TRADOC Pamphlet 525-9 and TAC Pamphlet 50-24)

## **Electromagnetic Spectrum**

The frequencies (or wave lengths) present in a given electromagnetic radiation. A particular spectrum could include a single frequency or a wide range of frequencies. (Joint Chiefs of Staff Publication Number 1)

## **Electronic Warfare**

Military action involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum and action which retains friendly use of the electromagnetic spectrum. There are three divisions within electronic warfare: electronic warfare support measures, electronic countermeasures, and electronic counter-countermeasures. (Joint Chiefs of Staff Publication Number 1)

## **Execution**

Actions that carry out a declared intent such as an attack on a target.

## **Fire Support Coordination Line**

A line established by the appropriate ground commander to insure coordination of fire not under his control which may affect current tactical operations. The fire support coordination line is used to coordinate fires of air, ground, or sea weapon systems using any type of ammunition against surface targets. The fire support coordination line should follow well-defined terrain features. The establishment of the fire support coordination line must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the fire support coordination line, without prior coordination with the ground force commander, provided the attack will not produce adverse surface effects on, or to the rear of, the line. Attacks against surface targets behind this line must be coordinated with the appropriate ground force commander. (Joint Chiefs of Staff Publication Number 1)

## **Fire Support Element (FSE)**

Representatives that target and plan fire support and electronic warfare support.

## **Forward Air Controller (FAC)**

An officer (aviator/pilot) member of the tactical air control party who, from a forward ground or airborne position, controls aircraft in close air support of ground troops. (Joint Chiefs of Staff Publication Number 1)

## **Forward Line of Own Troops (FLOT)**

A line which indicates the most forward positions of friendly forces in any kind of military operation at a specific time. (Joint Chiefs of Staff Publication Number 1)

## **Forward Observer**

An observer operating with front-line troops and trained to adjust ground or naval gunfire and pass back battlefield information. (Joint Chiefs of Staff Publication Number 1)

## **Immediate Air Support**

Air support to meet specific requests which arise during the course of a battle and which by their nature cannot be planned in advance. (Joint Chiefs of Staff Publication Number 1)

## **Immediate Mission Request**

A request for an air strike on a target which by its nature could not be identified sufficiently in advance to permit detailed mission coordination and planning. (Joint Chiefs of Staff Publication Number 1)

## **Indirect Fire**

Fire delivered on a target which is not itself used as a point of aim for the weapons or the director. (Joint Chiefs of Staff Publication Number 1)

## **Interaction**

Mutual or reciprocal action or influence.

## **Joint**

Connotes activities, operations, organizations, etc., in which elements of more than one service of the same nation participate. (Joint Chiefs of Staff Publication Number 1)

## **Joint Force**

A general term applied to a force which is composed of significant elements of the Army, Navy, or Marine Corps, and the Air Force, or two or more of these Services, operating under a single commander authorized to exercise unified command or operational control over such joint forces. (Joint Chiefs of Staff Publication Number 1)

## **Joint Suppression of Enemy Air Defenses (J-SEAD)**

That portion of SEAD which requires joint interaction to suppress enemy surface-to-air defense systems having an influence on the tactical air-land battle area. (TRADOC PAM 525-9 and TAC PAM 50-24)

## **Maximum Effective Range**

The maximum distance at which a weapon may be expected to deliver its destructive charge with the accuracy specified to inflict prescribed damage. (Joint Chiefs of Staff Publication Number 1)

## **Offensive Air Support (OAS)**

OAS is that part of tactical air support, conducted in direct support of land operations, that consists of tactical air reconnaissance (TAR), battlefield air interdiction, and close air support (CAS) which are conducted in direct support of land operations. (TRADOC PAM 525-9 and TAC PAM 50-24)

### **Observed Fire**

Fire for which the points of impact or burst can be seen by an observer. The fire can be controlled and adjusted on the basis of observation. (Joint Chiefs of Staff Publication Number 1)

### **Offensive Counter Air (OCA)**

OCAs are those operations mounted to destroy, disrupt, or limit enemy air power as close to its source as possible. (TRADOC PAM 525-9 and TAC PAM 50-24)

### **Operation Plan (OPLAN)**

A plan for a single operation or a series of connected operations to be carried out simultaneously or in succession. It is usually based upon stated assumptions and is the directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders. The designation "plan" is usually used instead of "order" in preparing for operations well in advance. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order. (Joint Chiefs of Staff Publication Number 1)

### **Operation Order**

A directive issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation. (Joint Chiefs of Staff Publication Number 1)

### **Preplanned Air Support**

Air support in accordance with a program planned in advance of operations. (Joint Chiefs of Staff Publication Number 1)

### **Preplanned Mission Request**

A request for an air strike on a target which can be anticipated sufficiently in advance to permit detailed mission coordination and planning. (Joint Chiefs of Staff Publication Number 1)

### **Rivet Joint**

An airborne system for the intercept and direction finding of target nation communications signals, as well as noncommunications and radar signals.

### **Standoff Target Acquisition System**

A heliborne MTI radar with all-weather target acquisition. A newer version will be able to indicate if a target has tracks or wheels. It will also provide power-link data to ground systems.

## **Suppression of Enemy Air Defenses (SEAD)**

That activity which neutralizes, destroys, or temporarily degrades enemy air defense systems in a specific area to enable air operations to be conducted successfully.

## **Tactical Air Control Center (TACC)**

The principal air operations installation (land or ship-based) from which all aircraft and air warning functions of tactical air operations are controlled. (Joint Chiefs of Staff Publication Number 1)

## **Tactical Air Control Party (TACP)**

A subordinate operational component of a tactical air control system designated to provide air liaison to land forces and for the control of aircraft. (Joint Chiefs of Staff Publication Number 1)

## **Tactical Air Control System (TACS)**

The organization and equipment necessary to plan, direct, and control tactical air operations and to coordinate air operations with other services. It is composed of control agencies and communications-electronics facilities which provide the means for centralized control and decentralized execution of missions. (Joint Chiefs of Staff Publication Number 1)

## **Target**

A geographical area, complex, or installation planned for capture or destruction by military forces. In intelligence usage, a country, area, installation, agency, or person against which intelligence operations are directed. An area designated and number for future firings. In gunfire support usage, an impact burst which hits the target. (Joint Chiefs of Staff Publication Number 1)

## **Target of Opportunity**

A target visible to a surface or air sensor or observer which is within range of available weapons and against which fire has not been scheduled or requested. (Joint Chiefs of Staff Publication Number 1)

## **Unobserved Fire**

Fire for which the points of impact or burst are not observed. (Joint Chiefs of Staff Publication Number 1)

## **Wild Weasel**

Certain fighter aircraft (F-4G and F-105G) equipped with specialized warning and analysis receivers and munitions that counter hostile radar from air defense systems.

## ACRONYMS AND ABBREVIATIONS

<b>AAA</b>	antiaircraft artillery
<b>AAGS</b>	Army air-ground system
<b>ABCCC</b>	airborne battlefield command control center
<b>AFCC</b>	Air Force component commander
<b>ALE</b>	Army liaison element
<b>ALFI</b>	air-land forces interface
<b>ALO</b>	air liaison officer
<b>AME</b>	airspace management element
<b>ARN</b>	air request net
<b>ASAC</b>	all-source analysis center
<b>ASOC</b>	air support operations center
<b>ATO</b>	air tasking order
<b>AWACS</b>	airborne warning and control system
<b>BAI</b>	battlefield air interdiction
<b>BCE</b>	battlefield coordination element
<b>BDA</b>	battle damage assessment
<b>BCE</b>	battlefield coordination element
<b>C<sup>3</sup></b>	command, control, and communications
<b>C<sup>3</sup>CM</b>	command, control, and communications countermeasures
<b>C<sup>3</sup>I</b>	command, control, communications, and intelligence
<b>CAS</b>	close air support
<b>C-E</b>	communications-electronics
<b>CEWI</b>	combat electronic warfare intelligence
<b>COID</b>	combat operations intelligence division
<b>CRC</b>	control and reporting center
<b>CTOC</b>	corps tactical operations center
<b>DCI</b>	director of combat intelligence
<b>DCO</b>	director of combat operations
<b>ENSCD</b>	enemy situation correlation division
<b>EW/ACQ</b>	early warning/acquisition
<b>FAC</b>	forward air controller

<b>FACP</b>	forward air control post
<b>FLOT</b>	forward line of own troops
<b>FSCL</b>	fire support coordination line
<b>FSCOORD</b>	fire support coordinator
<b>FSE</b>	fire support element
<b>GCI</b>	ground control intercept
<b>JAAT</b>	joint air attack team
<b>JCS</b>	joint chiefs of staff
<b>JFC</b>	joint force commander
<b>J-SEAD</b>	joint suppression of enemy air defenses
<b>MI</b>	military intelligence
<b>NBC</b>	nuclear, biological, and chemical
<b>OAS</b>	offensive air support
<b>OCA</b>	offensive counter air
<b>OPLAN</b>	operation plan
<b>REC</b>	radio electronic combat
<b>RDJTF</b>	rapid deployment joint task force
<b>RISTA</b>	reconnaissance/intelligence/surveillance and target acquisition
<b>ROE</b>	rules of engagement
<b>SAM</b>	surface-to-air missile
<b>SEAD</b>	suppression of enemy air defenses
<b>SHORAD</b>	short-range air defense
<b>SII</b>	statement of intelligence interest
<b>SSM</b>	surface-to-surface missile
<b>TAC</b>	Tactical Air Command
<b>TACC</b>	tactical air control center
<b>TACP</b>	tactical air control party
<b>TACS</b>	tactical air control system
<b>TAF</b>	Tactical Air Force
<b>TEREC</b>	tactical electronic reconnaissance
<b>TRADOC</b>	United States Army Training and Doctrine Command

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